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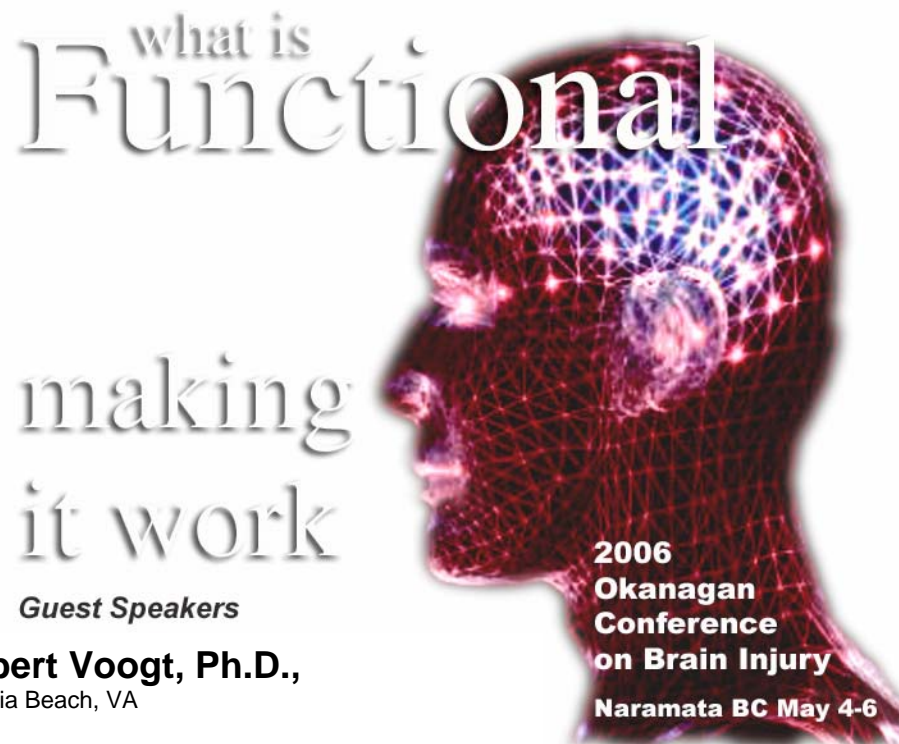
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Copenhagen, Denmark

Detective Constable Carolyn Matthews,
Oakwood, On.

**The conference is an interactive event providing
knowledge on a variety of topics, for practitioners,
caregivers and supporters of people with acquired
brain injury and their families.**

**Sponsored by:
Central Okanagan Brain Injury Society**

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IN THIS ISSUE:

How Does
Substance Abuse
Affect A Person Who
Has Had A
Traumatic Brain
Injury?
Page 1

Effects of Mild
Traumatic Brain
Injury Cannot Be
Differentiated From
Substance Abuse
Page 1

How Can Existing
Substance Abuse
Services Be Adapted
For People With
Traumatic Brain
Injury?
Page 1

Feature Article:
An Overview of
Substance Abuse
and Brain Injury
Page 2

Okanagan
Conference on Brain
Injury
Page 4

SUBSTANCE ABUSE AND BRAIN INJURY

**HOW DOES SUBSTANCE ABUSE
AFFECT A PERSON WHO HAS HAD A
TRAUMATIC BRAIN INJURY?**

SynapShots

There are multiple reasons why alcohol and other drug use after traumatic brain injury is not recommended. The substance abuse education series "User's Manual for Faster, More Reliable Operation of a Brain After Injury" (Ohio Valley Center, 1994) enumerates eight reasons:

1. People who use alcohol or other drugs after they have a brain injury don't recover as much.
2. Brain injuries cause problems in balance, walking or talking that get worse when a person uses alcohol or other drugs.
3. People who have brain injury often say or do things without thinking first, a problem that is made worse by using alcohol and other drugs.
4. Brain injuries cause problems with thinking, like concentration or memory, and using alcohol or other drugs make these problems worse.
5. After brain injury, alcohol and other drugs have a more powerful effect.
6. People who have had a brain injury are more likely to have times that they feel low or depressed and drinking alcohol or getting high on other drugs makes this worse.
7. After brain injury, drinking alcohol or using other drugs can cause a seizure.
8. People who drink alcohol or use drugs after brain injury are more likely to have another brain injury.

Taken from: SynapShots-www.synapshots.org Website by Charlotte Institute of Rehabilitation and the Ohio Valley Center for Brain Injury Prevention and Rehabilitation

**"People who drink alcohol or
use drugs after brain injury are
more likely to have another
brain injury."**

**HOW CAN EXISTING
SUBSTANCE ABUSE
SERVICES BE ADAPTED FOR
PEOPLE WITH TRAUMATIC
BRAIN INJURY?**

SynapShots

**EFFECTS OF MILD
TRAUMATIC
BRAIN INJURY
CANNOT BE
DIFFERENTIATED
FROM SUBSTANCE
ABUSE.**

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PRIMARY OBJECTIVE: Patients involved in litigation relating to mild traumatic brain injury (MTBI) typically undergo a forensic neuropsychological evaluation. However, if cognitive problems are identified, it is difficult to know whether these are related to the MTBI or other factors such as pre- and/or post-injury substance abuse. The purpose of this study was to compare the neuropsychological test performances of 73 patients with acute, uncomplicated MTBIs to a sample of 73 patients from an inpatient substance abuse program. **METHODS AND PROCEDURES:** Patients were perfectly matched on age, education and gender. Ten cognitive measures were used that included the Trail Making Test (TMT) and selected sub-tests from the Wechsler Memory Scale-Revised. **MAIN OUTCOMES AND RESULTS:** Patients with MTBI demonstrated poorer performances on Digits Backwards ($p < 0.028$) and TMTA ($p < 0.032$). There were no significant differences between the two groups on the remaining cognitive measures. The clinical usefulness of these measures to differentiate between the groups, using discriminant function analysis, was very poor. **CONCLUSIONS:** Patients with uncomplicated MTBIs could not be reliably differentiated from patients with substance abuse problems on these measures of concentration, memory and processing speed. PMID: 15762097 [PubMed - indexed for MEDLINE]



There should be a very high priority placed on doing research about the effectiveness of current substance abuse treatments for persons with traumatic brain injury. However, until more is known, current treatments and services need to be adapted to accommodate disability arising from traumatic brain injury. The Ohio Valley Center for Brain Injury Prevention and Rehabilitation have made a number of suggestions for substance abuse treatment providers.

(Continued on page 3)

AN OVERVIEW OF SUBSTANCE ABUSE AND BRAIN INJURY

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REMED, CONSHOHOKEN, PA

After an evening of heavy drinking, Jane Smith, 25, was involved in a car crash and sustained a brain injury that left her severely disabled. When her acute rehabilitation was complete, Jane returned home to live with her mother and brother, where the abuse of alcohol continued. It soon became apparent that without education about brain injury or substance abuse prevention skills, Jane was headed for a chaotic and progressively destructive lifestyle.

With the link between alcohol and brain injury firmly established, cases like Jane Smith's are the rule rather than the exception. Study after study has revealed that alcohol is involved in approximately 50 percent of all brain injuries. In addition, 50 percent of all people with brain injury are addicted to alcohol or drugs. These are not always the same people. Substance abuse, especially alcohol, after brain injury poses many problems.

- Following brain injury, alcohol may have more power than before and effect abilities to walk. Talk, think and control impulses and general social skills. Most people remain uneducated about the serious effects that can occur when medications and alcohol are mixed.

- People are often alienated by their peers and treated differently by family members following brain injury. This can lead to the use of alcohol as a so-called "common denominator"- a way to feel accepted.

- People unable to work or engage in once familiar leisure activities may turn to alcohol as a means to relieve boredom and feelings of alienation.

- Following brain injury, many people have difficulty grasping abstract concepts like sobriety and commitment without extensive education. As a result, programs like Alcoholics Anonymous (AA) rarely work without additional education, extensive support and clearly defined strategies for recovering and staying sober.

- It is recommended that people with brain injury stay away from alcohol and non-prescription drugs altogether. However, maintaining sobriety is particularly difficult in American society without significant support. Family members are often a major resource for supporting abstinence, but they too require substantial education to understand the effects of alcohol on individuals with brain injury and the need for abstinence.

Feature Article

It is now common belief that effective addiction awareness programs following brain injury must address more the need for sobriety. These programs should also provide family education to support the individual in his/her sobriety and develop supports in the person's community to sustain abstinence. This type of comprehensive programming can be useful for people with histories of addiction who are clearly at risk for returning to substance dependence. It may also be of help for people without clear histories of addiction who consumed alcohol or used non-prescription mood altering substances prior to injury.

Admission into addiction awareness treatment is often based on a variety of factors. First, it is important to identify social, emotional, cognitive, and occupational factors that may be related to brain injury. Second, it is also important to document any identifiable patterns of substance abuse. Third, it is vital that the person have access to the program and be prepared to attend. Fourth, there must be an agreement that the individual has the ability to benefit from treatment by virtue of cognitive and psychological functioning. Finally, and perhaps most important, is the willingness by the participant to commit to total abstinence.

Traditional substance abuse rehabilitation programs that require a 7-day or 28-day commitment for "detoxification" are rarely sufficient following a brain injury. Most of these programs fail to address the cognitive challenges that often follow brain injury. Too often the material in these programs is presented too quickly, too abstractly and incompletely for many people to comprehend. Alternatively, the following goals are often required to help people sustain abstinence following a brain injury:

1. Motivate the individual to establish and maintain abstinence from using all non-prescription, mood-altering substances.
2. Educate the individual about the potential impact of substance use as they work to recover from brain injury.
3. Teach family members and others close to the individual about brain injury as well as pertinent information about addiction and substance abuse. Family counseling sessions may also be provided to discuss the need for abstinence from substance abuse and the family's role in supporting continuing sobriety.
4. Train the individual in the use of various sobriety support systems available to them. This may include educational work sheets. Weekly counseling, relapse prevention groups, awareness meetings, community support groups and similar mechanisms.

In addition to increasing awareness of the disease of addiction and the impact of brain injury on sobriety, the services should also help the individual develop personal community support systems and strategies to maintain a sober lifestyle.

It is not unusual for people to first fully embrace their substance abuse treatment program "to do whatever it takes to stay sober". The support and attention involved in entering such a program, coupled with new knowledge about brain injury and alcoholism, can be powerful motivators. However, as sobriety continues, moods and feelings can begin to fluctuate with daily challenges. On good days, sobriety is relatively easy. On difficult days it is not unusual to feel overwhelmed and want to leave treatment or return to drink.

This pattern is common for many people, but the cognitive challenges that often follow brain injury can make it more difficult. There may be problems processing and comprehending information, or independently implementing compensatory strategies. Extra support and guidance may be required to recognize that these patterns are part of the recovery process. Additional help may also be required to develop and utilize community supports such as Alcoholics Anonymous and other groups. Having treatment program staff assist the individual in using these supports can also be important in overcoming cognitive barriers to participation. Oftentimes the staff member can help the individual take notes, learn names and follow the flow of information in a way that overcomes these cognitive challenges without changing the AA program.

Even when a person sustains sobriety in treatment they may be vulnerable to events at home, especially if there is alcohol or another form of substance abuse buy other family members. Here it is important to anticipate family shortcomings and help the individual plan to anticipate such challenges. This is also the time to begin locating community support systems and AA meetings within the person's home community.

Comprehensive plans are crucial for successful maintenance of sobriety after program discharge. This is true whether the individual will be returning to live with family, entering another rehabilitation facility, or moving onto independent living. A basic, individually tailored sobriety plan should include the following elements:

- Taking the individual to the area where he/she will live after discharge to research meetings to obtain AA phone numbers, along with possible sponsors.
- Developing recreational options, along with community resource books that provide people with new leisure plans and social activities that do not

include alcohol. If return to work is possible, then plans should be similarly discussed and support provided.

- Educating family members to determine their support and attitude regarding substance abuse.
- Developing a plan for overall healthy living that includes diet, exercise and stress management.
- Clearly identifying funding sources to ensure financial support for any services that may be needed in the future.

When properly managed, these combined procedures of careful assessment, intensive education, strong community support, positive involvement by family and friends, and program transition to the individual's discharge environment can be clinically effective. The biggest challenge during treatment is encouraging participants to adhere to all treatment goals. People who do this tend to have better outcomes. The biggest challenge following formal treatment is continued maintenance and support in each person's community to prevent relapse.

Ultimately, overcoming substance use and abuse is an ongoing, life-long process for people with brain injury as well as individuals without brain injury. The process has no cure or perfect solution. Instead, it demands educating each person and their family members, and developing careful strategies to give each person the best possible chance of succeeding.

Taken from handouts - Okanagan Conference on Brain Injury, Naramata, BC, 1999

"Substance abuse is a risk factor for having a traumatic brain injury and traumatic brain injury is a risk factor for developing a substance abuse problem." John Corrigan – Ohio Valley Center for Rehabilitation

SynapShots is published by the Charlotte Institute of Rehabilitation and the Ohio Valley Center for Brain Injury Prevention and Rehabilitation. For more information with regards to substance abuse and brain injury, please contact their website at www.synapshots.org

(ADAPTED SERVICES ...continued from page 1)

Suggestions for Substance Abuse Treatment Providers Working with Persons Who Have Limitations in Cognitive Abilities

The substance abuse provider should determine a person's unique communication and learning styles.

- Ask how well the person reads and writes; or evaluate via samples.
- Evaluate whether the individual is able to comprehend both written and spoken language.
- If someone is not able to speak (or speak easily), inquire as to alternate methods of expression (e.g., writing or gestures).
- Both ask about and observe a person's attention span; be attuned to whether attention seems to change in busy versus quiet environments.
- Both ask about and observe a person's capacity for new learning; inquire as to strengths and weaknesses or seek consultation to determine optimum approaches.

The substance abuse provider should assist the individual to compensate for a unique learning style.

- Modify written material to make it concise and to the point.
- Paraphrase concepts, use concrete examples, incorporate visual aids, or otherwise present an idea in more than one way.
- If it helps, allow the individual to take notes or at least write down key points for later review and recall.
- Encourage the use of a calendar or planner; if the treatment program includes a daily schedule, make sure a "pocket version" is kept for easy reference.
- Make sure homework assignments are written down.
- After group sessions, meet individually to review main points.
- Provide assistance with homework or worksheets; allow more time and take into account reading or writing abilities.
- Enlist family, friends or other service providers to reinforce goals.
- Do not take for granted that something learned in one situation will be generalized to another.
- Repeat, review, rehearse, repeat, review, rehearse.

The substance abuse provider should provide direct feedback regarding inappropriate behaviors.

The substance abuse provider should be cautious when making inferences about motivation based on observed behaviors.

- Let a person know a behavior is inappropriate; do not assume the individual knows and is choosing to do so anyway.
- Provide straightforward feedback about when and where behaviors are appropriate.
- Redirect tangential or excessive speech, including a predetermined method of signals for use in groups.
- Do not presume that non-compliance arises from lack of motivation or resistance, check it out.
- Be aware that unawareness of deficits can arise as a result of specific damage to the brain and may not always be due to denial.
- Confrontation shuts down thinking and elicits rigidity; roll with resistance.
- Do not just discharge for non-compliance; follow-up and find out why someone has no-showed or otherwise not followed through.