



Shaken, not Stirred

Treatment of ABI and Substance Abuse

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**“...I’d rather have a
bottle in front of me
than a frontal
lobotomy...”**

Steve, 1978



**“.....when that bar
door swings open,
I know I have
friends inside....”**

Tom, 1986



**“....I walk like a drunk and
talk like a drunk,
so I may as well be one....”**

Jay, 1987



Substance Abuse and Brain Injury

**Adding complications to an
already complicated problem**



Substance Abuse and Brain Injury

- Varying rates of occurrence noted in studies, but consistency noted in prevalence and effects on outcomes
- 16% to 66% pre and post injury substance abuse rates
(Corrigan, 1995; Kelly et al, 1997; Sparadeo, Barth and Stout, 1992)
- 10% to 50% continue to experience post injury substance abuse problems



Role of Alcohol in Brain Injury

- 67% of brain injury cases admitted to Emergency Departments as a result of MVA's demonstrated an elevated Blood Alcohol Level
- 51% of those cases met or exceeded the clinical standard for intoxication

Source: Sparadeo and Gill, 1989



Classification-DSM IV

- **Substance Abuse** is defined by a pattern of substance use resulting in problems in social relationships, poor health, criminality or use in unsafe situations
- **Substance Dependence** is defined by **psychological dependence** (giving up more important activities to obtain and use substances) and **physical dependence** (increased tolerance to the effects of substances and withdrawal symptoms when substance is not used)

Source: DSM IV, American Psychiatric Association



Consequences of Substance Abuse Comorbidity with ABI

- Worsens cognitive, physiological, behavioral and emotional issues
- Enhances psychiatric symptoms (i.e.: depression)
- Reduces ability to self-regulate behaviour
- Increases risks for: suicide, violence, risky behavior
- Health related risks
- Increased health service needs
- Decreased functional capacities
- Increased level of disability
- Reduced likelihood of return to work



Repeated Drug Use and Neurobiological Changes

- Reduced seizure threshold
- Interactions with prescribed medications
- Brain changes produced by certain street drugs (meth, cocaine)
- Reduced ability to modulate emotional state (anger, depression)
- Enhanced cognitive problems (memory, executive functions, learning)
- Enhanced physiological problems (balance, gait)



Behavioural and Cognitive Problems Affected by Substance Use

- Attention and filtering
- Concentration/ selection
- Stimulus Control
- Irritability
- Impulse Control/ Self Regulation
- Memory
- Decision Making
- Information Processing
- Social Judgment
- Disinhibition
- Insight
- Learning



Personality Disorders, Neurocognitive Functioning and Brain Injury

- Language based deficits associated with social mistrust, social independence and behavioral acting out
- Executive deficits associated with emotional acting out, defiant determination and aggression
- High correlation between depression and personality disorders and left temporal injuries (Borderline features)
- Injury serves to exacerbate premorbid personality traits, further reducing coping skills and expanding functional problems
- Potential for substance abuse/addiction may increase for individuals with Personality Disorders and Brain Injury
- Treatment for substance abuse/addiction will require consideration of personality and neurocognitive issues

Source: Ruocco and Swirsky-Sacchetti, 2005



Can neurocognitive deficits exacerbate substance abuse problems?

- Emotional and behavioral dysregulation
- Difficulty understanding language based interventions
- Reduced coping skills
- Dual diagnosis: ABI + Psychiatric Issues
- Role of self-medication in substance abuse



The Influence of Substance Abuse on Long Term Outcomes



Emergence of Substance Abuse Problems

- 33% of the participants in the NRIO study report substance use was a factor in their injury
- From 1997 to 2001 there was an 18.8% increase reported in post injury use related to increase in pre-injury users; greater use post injury associated with increased psychiatric co-morbidity

Source: NRIO Outcome Study 1993-2005



Effects of Substance Abuse on Social Role Return

- Level of participation in primary social relationships (spouse, family, friends, co-workers)
- Ability to perform functions associated with social roles
- Ability to engage in activities required for specific aspects of life

Source: NRIO Outcome Study 1993-2005



Factors Associated with a Positive Social Role Return at the Ten Year Point

- Positive family relationships
- Adjustment to disability by individual
- Adjustment to disability by family members
- Use of productive coping strategies
- Ability to access resources
- Maintaining avocational activities and social network involvement

Sources: NRIO Outcome Study, 1993-2005; Sanders, Baylor College of Medicine, Institute for Rehabilitation and Research Report, 2003



Factors Associated with Increased Post Injury Substance Abuse

- Increased pre injury use
- Increase in individuals with pre-existing psychiatric and/or substance abuse diagnoses
- Increase in injury severity, complexity
- Reduced time in acute medical rehabilitation
- Increase in required amount of physical assistance
- Decline in % of individuals returning to work/school
- Decline in % of individuals reporting “no change” in primary social role return

Source: NRIO Outcome Study, 1992-2005



Substance Abuse and Brain Injury: Issues for Recovery

- Elevated Blood Alcohol Levels seen in 67% of ER MVA Admissions (Sparadeo and Gill, 1987, 1989)
- Prolonged coma states and extended periods of disorientation and confusion
- Slower progress and recovery in acute rehabilitation
- Approximately 30-50% of individuals with ABI will demonstrate problems with substance abuse
- Pre-injury use equates to a return to an established pattern
- Post-injury use relates to adjustment to disability, management of psychological problems/mood state, increased social isolation, loss of life focus and pain management



Substance Abuse and Rehabilitation Outcomes

- Substance Abuse problems increased in the first 24-48 months post injury, then declined over the subsequent years
- The emergence of psychiatric problems (initial diagnosis) increased for the first 12-24 months, then stabilized over the subsequent years
- The percentage of individuals who returned to work and remained employed declined

Source: NRIO Outcome Study, 1993-2005



Problems Encountered by the Individual with Substance Problems in the rehabilitation setting

- Experiencing rehab staff as confrontational
- Problems with decision making and follow through
- Seeing themselves as “different” , not identifying with other clients and/or staff
- Avoidance of addressing deficits and problems
- Difficulty with sustaining motivation
- Managing cravings and use related behaviours



Rehab Failure: Substance Abuse and ABI



- Problems associated with the return to community living and family commonly occur at the 24 month post injury point
(Burke and Weslocki, 1989)
- Consistent with the end of formal rehabilitation
- The emergence of stressors in primary relationships
- Related to failed return to work, school and community



Increased Health Risks associated with Substance Abuse

- Effects on an already “fragile” state of health
- Interactions with prescribed medications
- Increased risks for falls, seizures, CVA's, respiratory and circulatory problems
- Risk for exposure to Hepatitis C and HIV
- Other health problems associated with the drug culture



Contributing Factors to Substance Use and Abuse



- Response to chronic pain and headache
- Behavioral and emotional changes
- Abuse/misuse of prescription medications
- Feelings of boredom, response to changes in work and daily routines
- Self medication
- Establish oneself in a new peer group
- Use substances “to explain” ABI changes



Adjustment to Disability and Substance Abuse

- **Response to:**
 - Altered functional capacities
 - Cognitive changes
 - Psychological changes
 - Increased level of dependence
 - Change in activity level and life focus
- **Perception of changes in:**
 - “Values of Living”
 - Acceptance by peer group
 - Maintaining Primary Social Relationships
 - Effect of isolation, divorce, separation, job loss



Optimizing Treatment

Finding what works



Issues in Treatment

- Counselors have difficulty understanding the slower rate of change
- Subtle cognitive impairments and problems with initiation/sustaining, motivation and self-direction complicate assessment and treatment
- Physical problems associated with fatigue, mobility
- Cognitive Impairments such as memory, information processing
- Behavioural problems: anger management; self-regulation/impulse control
- Diminished insight and enhanced denial
- Increased likelihood of psychiatric symptoms emerging



“Catch-22” Problem for Individuals with ABI and Substance Abuse

- Don't fit rehab programs
- Don't fit substance abuse programs
- High likelihood of crisis problems, but poor fit with crisis service providers
- Poor fit with traditional support programs (AA/NA)
- Few supports for caregivers



Treatment Approaches: What Will Work?

- **Sequential-** requires progression from substance abuse treatment into rehabilitation program
- **Parallel-** participation in two programs at the same time, but programs not sharing a common treatment plan
- **Integrated-** rehabilitation program includes substance abuse treatment and counseling and an integrated treatment plan



Prerequisites for Effective Treatment

- Identification/Detection
- Assessment
- Treatment Components
- Smaller Group Size
- Shorter Sessions
- Cognitive Supports
- Repetition in material
- Use of social skills training/rehearsal training
- Sponsors with knowledge of ABI issues



Problems Encountered in the Traditional Model

- Inability to identify with the speaker
- Problems in following process and flow of meeting
- Difficulty in applying insight
- Role of denial
- Selecting and maintaining behavioural alternatives
- Remembering to attend meetings
- Initiate participation
- Control and manage “cravings”



“Payoff Matrix” for Evaluating Use vs. Sobriety

- **Advantages of Using:** socialization, coping with symptoms/ problems, pleasurable activity, recreation, “something to do”
- **Disadvantages of Using:** Increased ABI symptoms, conflict with others, money/legal problems, loss of family/job/housing, money problems
- **Advantages of Not Using:** less conflict with others, fewer symptoms, fewer money/legal problems, more stable relationships with family/housing, able to work/attend school
- **Disadvantages of Not Using:** more problems socializing, difficulties coping with symptoms/problems/negative moods, lack of recreational/fun activities, having “nothing to do”



ABUSE Model for Screening

- **A**mount (substance, quantity, frequency)
- **B**ackground (use history, prior treatment)
- **U**se-Related Effects (since injury relationship to other life problem areas)
- **S**ocial (social and recreational role of substances)
- **E**nvironment (family history, role in “get-togethers”, use at work/school)

Source: Corrigan et al, Ohio Valley Center for Brain Injury Prevention and Rehabilitation, Substance Abuse and Brain Injury Toolbox



“Triggers” and Situational Awareness

- Identify triggers for use
- Emotional State/ feeling depressed
- Physical State/ “cravings”
- Social situation/ others who use
- Availability of substances
- Familiar environment for substance use
- Social pressure “let’s get high”
- Activities associated with substance abuse



Developing and Maintaining Alternatives

- Areas of interest: work/avocation, social and recreational
- Resources and places in the community
- Replacement activities : fitness, sports
- Coping skills training
- Stress/pain management
- Rehearsing new behaviours



Striving Towards Success in Treatment

- Understand cognitive and communication issues
- Address individual's unique learning needs
- Provide direct feedback about behaviours
- Avoid conclusions about motivation and compliance
- Provide support for relapses



Relapse Prevention: The Counselor's Role



- Expect that relapse will occur, progress is not linear
- Provide support for relapse, avoid identifying relapse as failure
- The person who experience slips once treatment has ended, consolidation of change takes time and support
- Setbacks and slips may relate to stressor at home, in relationships, at work or in the community
- Stay with individuals who appear to be “stuck”



Finding Help in the Helping Communities

- Locating an appropriate support group
- Supported attendance at AA/NA
- Working with sponsors to understand ABI
- Finding specialized resources with ABI expertise
- Extending beyond rehab and substance abuse programs
- Support for spouses and families





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