

Behavior Correlates
in Traumatic Brain Injury:
Recognition, Respect, & Reorganization

October 22, 2009
Focus 2009 Conference
Wisconsin Dells, Wisconsin.

Donald L. Mickey, Ph.D.
Dawn Oechsner, CBIS
Jacqueline Kuhl, Unit Coordinator

Clearview Brain Injury Center
199 Home Rd.
Juneau, WI 53039
(608) 286-2577

BRAIN INJURY ISSUES

- Difference between purposeful behavior and behavior that may reflect one's injury.
- Difference between organically based behavior and behavior that is psychically driven.
- Can you have both??
- Not Developmentally Disabled
- Positive Changes can continue for many years

Differences Between DD/TBI

- All individuals with TBI had some sort of "normal" prior life to injury.
- Individuals with TBI can continue to improve, learn, change, and compensate for deficits over time.
- Often DD individuals have limited intellectual resources to draw from.
- Working with both populations should require the respondent to look at the deficit in light of the environment and gaps in performance with a clear understanding of the individuals capabilities.
- Can you increase capabilities?

Ideal Course of Recovery

- Course of recovery
 - Coma
 - PTA (Post Traumatic Amnesia)
 - Retrograde and Anterograde amnesia
 - General confusion
 - agitation
- Hospital Rehabilitation
- Post Acute Rehabilitation/Sub-acute
- Gradual Return to Community and work (with supports)
- Course often dependent on insurance

The "Other" Course of Recovery

- Hospital Management at Acute Level
- Return to Community with limited Outpatient Therapy
- Patient and/or Family is left to figure out "What is Next?"


Post Acute Care

- A post acute program can assist with a comprehensive coordination of an intense therapy program including:
 - Physical, Speech ,Occupational , Recreational and Vocational Therapy
 - Neuropsychology, Physiatry, Psychiatry, Neurology, Medical and Case Management services.
- More intensive and complete than outpatient services can be (individual gets cues, carryover programs and support by therapy team, support staff and family)
- Reintegration to community
 - Outings/therapy in community settings
 - Setting up supports for discharge (personal care services, support groups, transportation, etc.)
 - Referrals for funding, outpatient therapy, etc.

Traumatic Brain Injury

A traumatic brain injury is defined as a bolt or jolt to the head or a penetrating head injury that disrupts the function of the brain.*

- Not all blows or jolts to the head result in TBI. The severity of such an injury may range from "mild", i.e., a brief change in mental status or consciousness to "severe", i.e., an extended period of unconsciousness or amnesia after the injury.
- A TBI can result in short or long-term problems with independent function.



*Source: Centers for Disease Control and Prevention

General Function

- The brain operates as a functional unit, a whole system, damage in one part may be reflected in areas other than what one would predict.
- Damage to neural pathways in white matter may be reflected as an end point injury such as the thalamus or frontal lobes.

Pathology of TBI

- Shear Injury-affects white matter
- Coup/Contra Coup Injury
- Diffuse Injury versus focal injury

Scope of Wisconsin's Problem*

~5,857 individuals sustain a TBI each year

- This equates to ~15 cases each day

There are over 4,600 brain injury-related hospital discharges.

- More than 1100 Wisconsin residents die from traumatic brain injuries.
- Many more people who experience a TBI go undiagnosed

*Source: WI Bureau on Health Information

Most Common Causes of TBI in Wisconsin for 2007*

(all ages) Total Cases 4694


• Falls	48%	(2402)
• Motor vehicle traffic	28%	(1385)
• All motor vehicle crash-related		
• Assault	6%	(306)
• Non traffic-transportation	4%	(249)
• Struck by or against	6%	(200)
• Non traffic-cycle	2%	(95)
• Other	2%	(94)

*Source: WI Bureau on Health Information

Risk Factors*

Of those hospitalized in Wisconsin,

- males are ~1.8 times more likely to sustain a TBI than females
- two age groups at highest risk are 15- 24 and those over 75 years of age



*Source: WI Bureau on Health Information

General Function; Lobes

- Frontal: Emotional control center and highest intellectual area of the brain; includes language, creative thought, problem solving, initiation of movement, judgment, and impulse control.
- Temporal: Memory, language, sequencing, musical ability
- Parietal: Sensation, reading, listening, awareness of spatial relationships, and memory
- Occipital: Visual perception

BRAIN INJURY ISSUES

- Behavioral Sequelae of TBI
 - Exaggeration of pre-injury behavior
 - Disinhibition and impulsivity
 - Poor initiation
 - Diminished capacity to discriminate among relevant/irrelevant environmental cues
 - Impaired capacity for social perceptiveness

BRAIN INJURY ISSUES

- Behavioral Sequelae of TBI
 - Reduced frustration tolerance (self management)
 - Failure to profit from experience
 - Heightened sensitivity to stimulation
 - Impaired social skills/disruption in previously learned social behaviors
 - Inability to engage in purposeful behavior
 - Stimulus bound behavior
 - Changes in drives (temper, eating, sexuality)

Characteristics of Adolescents/Adults with TBI

- Are different-don't want to appear so. May go to extremes to deny differences
- Often have invisible deficits with visible behaviors
- Are frequently misunderstood, misdiagnosed, accused, socially isolated.
- Often have double, triple, quadruple, diagnoses...e.g. Substance use, LD, ADD, Behavior Disorder, Paranoia, Depression, Anxiety Disorders, etc. pre- and/or post injury.

Characteristics of Adolescents/Adults with TBI

- May have very different personalities than pre-injury.
- May manifest exaggerated pre-injury traits and behaviors
- Students are often given insufficient or ineffective remediation in normal academic settings and special education resource rooms.
- Compensate for deficits without formal training, but may do so inefficiently and awkwardly.

Characteristics of Adolescents and Adults with TBI

- May be unaware of the functional implications of their injuries.
- Probably require good structure.
- May absorb information slowly and/or think slowly.
- May experience life differently than pre-injury
- May not be able to accurately see themselves through others' eyes.

Inconsistencies The Individual Experiences

- The affect of fatigue compounds the effects of the injury.
- “Can’t walk and chew gum”!
- Frontal lobe problems- Too many choices and decisions
- Simple definition: No auto pilot now, must always be alert

Needs:

- Awareness of injury deficits in a functional sense. How does a right frontal lobe injury affect the person in the environment? This has to be an ongoing educational process with supports available following failures to process what happened.
- Functional and verifiable knowledge of strengths.
- Functional and verifiable knowledge of weaknesses.

Needs:

- Energy Output.
 - How much.
 - How Long.
 - Crashes/recovery.
- Risk taking to develop new skills or verify existing skills.
- Planned failure in the community setting to assist the learning process.

Philosophical statement regarding a core Issue

- If one is to succeed in guiding a person from one state to another, one must first ensure that one can identify where the person is to be found and start there. This is the secret to helping.
- All true helping begins with humility.
- The helper must first be humble him/herself to the person that he/she wishes to assist and from that position understand that helping is not to dominate but to serve.
- *Soren Kirkegaard Danish Philosopher, 1810-1855*

Behavior Planning

- Behavior problems are not unusual, you need to visualize the context in which the behavior occurs in, i.e. environment. Where are you when the behavior occurs?
- Behavior Plans??
- Back to the Basics: you need to listen (to yourself and the individual)
- Who owns the plan?
- Building a relationship and trust...guidance is easy.

Caveat

- Always remember that you are dealing with a WHOLE system (person) that had a life prior to becoming a brain injured "patient or client". Always be aware that systems function together and may not always fit neatly into specialty areas.

Additional Information on Behavior Planning: The Specifics

What to do:

A. Listen, Listen , Listen. (Warning signal=your own emotions)

B. Planning:

1. Predict - It always occurs when _____ (fill in the blank).
2. Anticipate, what are the warning signals? in behavior (non-typical behavior).
3. Change in attitude (more defensive, angry, etc.).
4. Check your own emotional state.

Behavior Planning

5. Calm, slow objective, in-control.
6. Your attitude and means of intervention needs to match the individual's request level:
7. Provide rational answers.
8. Individual questioning authority---
Avoid power struggle, set clear limits, redirect to task or discussion of task.
9. Verbal acting out---Isolate or remove individual from audience or remove yourself and/or audience. Negotiate later when individual is calm.
(Remember when you were out of control and somebody talked to you rationally and told you how you should act!?)

Behavior Planning

10. We must separate ourselves out from the behavior. We must make sure we are not part of it. Stay out of it emotionally, do not react from an emotional base.

C. Intervention:

1. Positive and in-control -- voice, body language, movements, space.
2. Individual owns behavior, this is a must!!!
Otherwise you become the police agent, this should not be one's role in life.

Behavior Planning

D. Risk Taking (this comes from truly understanding the behavior):

Do you or does the individual need the encouragement? How does a child become an adult? Knowing the individual and the level of his/her behavior at the time allows you to chose appropriate verbal intervention strategies.

Specifics (or "How to become a behavior analyst in 3 easy steps."):

- A. Treat only one behavior at a time.
- B. Quantify the behavior - What is the baseline?
- C. What are environmental antecedents; can they be modified?
- D. Clear consistent reinforcers (consistency is the key).
- E. Simple behavior plan.
- F. Can you track and record data? How do you know if the behavior is changing?

Specifics

- G. Be aware the behavior will probably increase before it will decrease (test the limits).
- H. Remember this is not your behavior plan, it belongs to someone else. It is much easier to have a plan which they are part of so they have a vested interest in change. If they commit to a plan, it is their plan not yours, so they select the Consequences. Remember: who gets paid off or not paid off by the success or failure of the plan.

Specifics

- I. Always intervene verbally before physically.
- J. Use behavioral brainstorming format if you cannot come up with a method to change the behavior.

SET THE ENVIRONMENT

- Minimize
 - Noise
 - Clutter
 - Harsh Colors
 - Extremes in temperature or humidity
 - Unpleasant Odors
 - Uncomfortable furniture or adaptive equipment

SET THE ENVIRONMENT

- Maximize
 - Privacy
 - Individuality
 - Safe freedom of movement
 - Availability of low stimulus quiet areas
