

Understanding & Responding to Common ABI Behavior Changes

Wendy Crowther-Rakochoy M.A., C. Psychological Associate
Practice in Clinical & Rehabilitation Psychology
Health Sciences North Outpatient Brain Injury Rehabilitation Service
wecrowtherrakochoy@hsnsudbury.ca

November 16th, 2018



Health Sciences North
Horizon Santé-Nord

Disclosures



- I have no relevant disclosures

OBIRS :



- Age 18 + with diagnosed ABI
- Inter-d team
 - Clinical & Rehabilitation Psychology
 - Occupational Therapy
 - Recreation Therapy
 - Social Work
 - Speech Language Pathology
 - Case Management



Objectives...



1. Recognize some of the common post-injury changes that may occur when an adult sustains an acquired brain injury.
2. Understand how both pre-injury & injury related factors play a role in shaping post-injury behaviors
3. Identify positive strategies that can be used when responding to these behaviors.



What is an ABI?



When a person has an Acquired Brain Injury, damage to the brain has been caused either traumatically or through a medical problem or disease process such as:

- Traumatic Brain Injury
- Hemorrhagic Stroke
- Aneurism
- Anoxia
- Brain Tumor (non-progressive)
- Brain Infection (i.e. Meningitis)

WHEN IS IT NOT AN ABI?



Brain impairment that:

- Occurred less than 7 days post-birth
- Was due to a congenital or developmental disorder
- Was due to a progressive disease or focal stroke

The Individual



“Until the injury the person was like you or me.

He/she probably worked or went to school, contributed to society, loved and was loved, had fears and worries, experienced pain and joy.

We frequently fail to understand that until the injury the person was a fully functioning member of a family, work group or society.

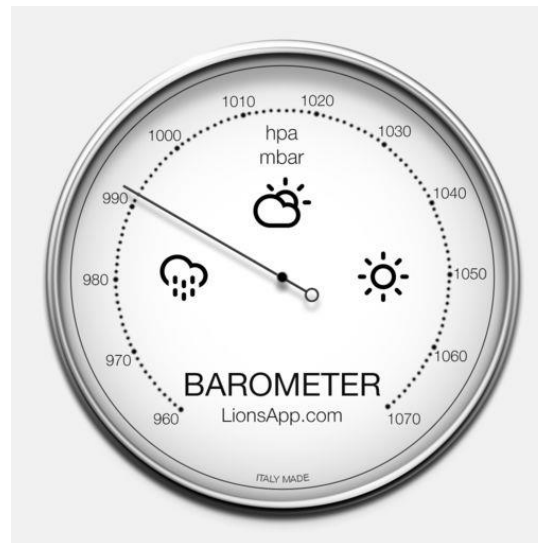
Until we understand the person behind the brain that was injured, we can do little to restore that person to a more functional life. We must delve beyond the current behavior and discover hidden strengths and weaknesses, pride and sorrow, accomplishments and failures” J Falconer

Behavior as a Barometer



- You can see behavior as a **barometer** or gauge of how a person is doing.
- You can start to problem-solve and ask questions about what is affecting it and what can be changed in order to change the behavior.

Jacobs



Functional Vs. Dysfunctional



- Behavior is **Functional** when it is having a desired effect or outcome.
- A behavior is considered **Dysfunctional** because a person fails in a task, or tries but is unable to complete the entire task or because of how a person reacts to a situation such as with anger or frustration.
- A **behavior problem** is an episode of **dysfunctional behavior**



Too much vs Too little



- Problems can result from both an absence of expected/needed behaviors and an excess of behavior



Behavior on a Continuum



“Normal”

“Serious”



Challenging Behaviors
occur in 25-50% of ABI
survivors (Baguley et al 2006)



3 Factors



1. Pre-injury vulnerability factors
2. Injury-related factors
3. Post-injury factors

Pre-Injury Factors



Injuries happen to people not
just brains!



Pre-injury factors



- Education
 - Employment,
 - Family background
 - Previous personality and mental health, substance use
 - Medical history
 - Interests, other unique traits like wake/sleep times, personal preferences, and habits
 - History of unusual life episodes or events
 - Skills in communication, problem solving, managing emotions
 - Previous coping experiences and losses
 - Culture and heritage
- ABIOS, Harvey Jacobs, INESS-ONF

Injury Related Factors



TECHNICAL DIFFICULTIES



Injury Factors



- Age at which they were injured
 - Severity of the injury
 - Type of injury
 - Area of the brain involved
 - Other injuries
 - Other medical factors like pain, fatigue, difficulty sleeping, seizures, medications,
-
- ABIOS, Jacobs, INESSS-ONF

A Brief Brain Primer



- Damage to the frontal lobes, temporal lobes and limbic system are more likely to result in changes in behavior



Frontal Lobe

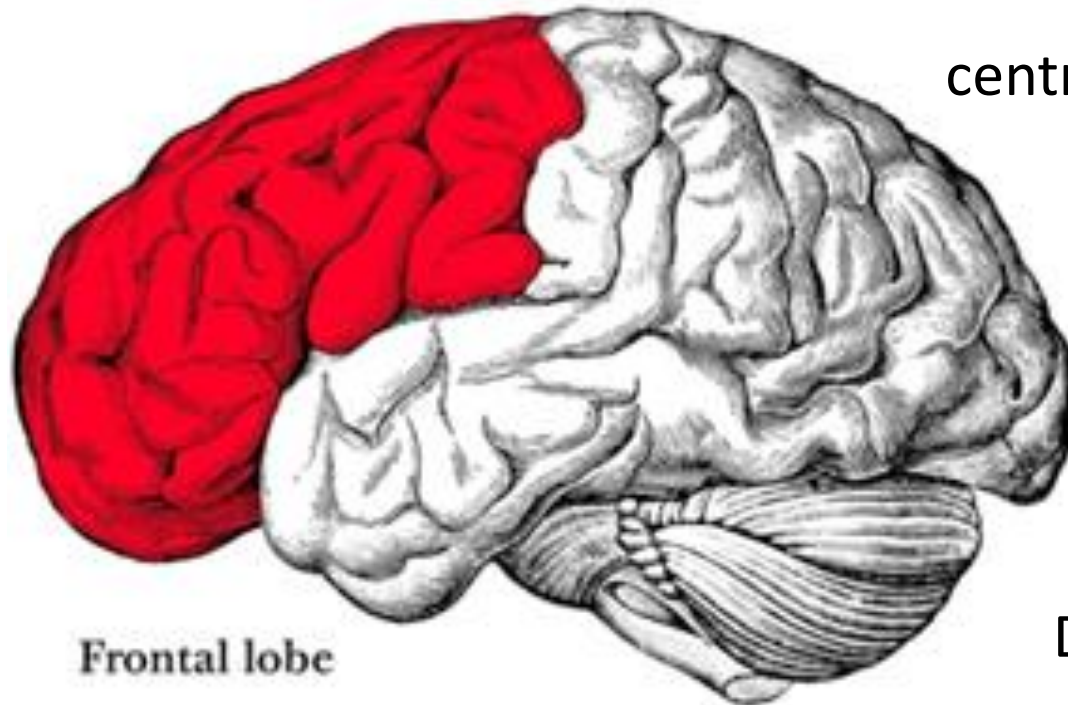


Personality &
social behavior

Poor Awareness

Self-
centred/egocentric

More
emotional/
less
emotional



Frontal lobe

Exaggerated
personality
traits

Disinhibited/
inhibited

Sexual behavior



Frontal Lobe



Initiation of behavior

- Low motivation & activity levels
- Apathy or lack of interest
- Difficulty following through to complete tasks & activities
- May get easily bored and frustrated

- ABIOS

Frontal Lobe



Self-Awareness & self monitoring, insight & adjustment

- Impaired social awareness & judgment
- Reduced motivation to change behavior
- Lack of awareness of errors
- Lack of awareness of impact of own behavior on others
- Poor awareness of emotions in self or others, so inability to self-manage emotions

- ABIOS

Frontal Lobe



Flexibility in thinking & behavior

- Concrete thinking
- Difficulty thinking of alternative ideas or behavior
- Rigidity in ideas & behavior, difficulty shifting or changing behavior
- Argumentativeness
- Irritability with others
- Low frustration tolerance

- ABIOS

Frontal Lobe



Thinking, reasoning & decision making

- Misunderstanding of what others do or say
- Difficulty with logical reasoning & problem solving
- Difficulty working out solutions to practical & social problems
- Poor judgment
- Impulsive decision-making
- May take longer to make decisions

- ABIOS

Frontal Lobe



Planning & Organization

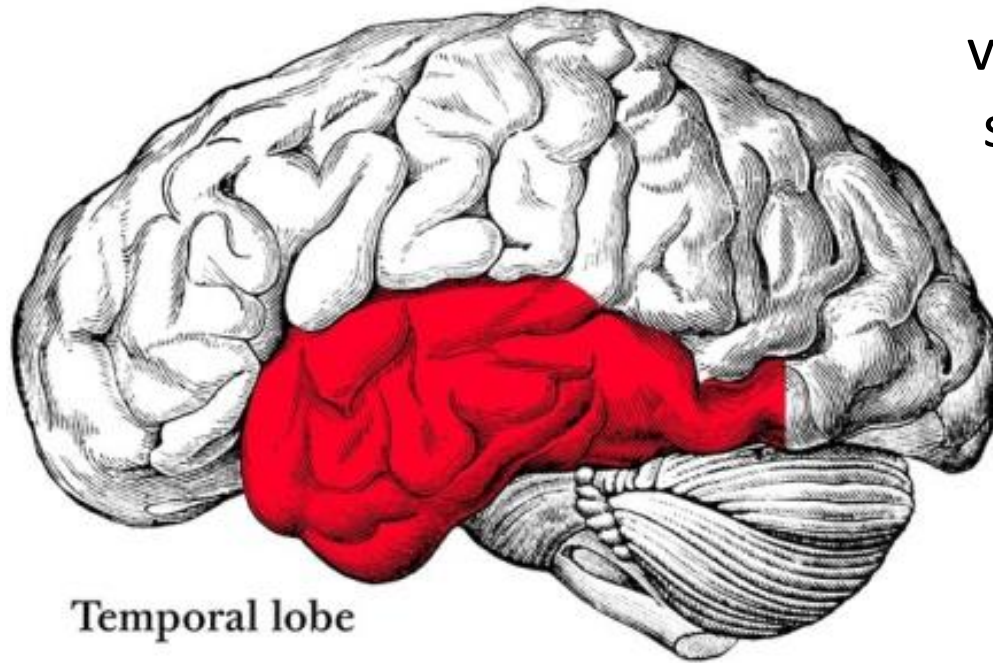
- Decreased ability to organize information, ideas or activities
- Difficulty sequencing activities and behavior
- Unpredictable behavior due to poor planning
- May not complete activity or follow through
- Frustration & irritability when things don't go to plan
- Confusion about what to do and when to do things
- Clutter and lost items

Temporal Lobe



Left= complex auditory info
“language”

- Words & language



Right= complex visual info “faces, scenes, objects”

- Meaning of speech-inflections

Memory Processes-verbal & non-verbal

Temporal Lobe



Memory, new learning, remembering instructions, events, remembering own & others behavior

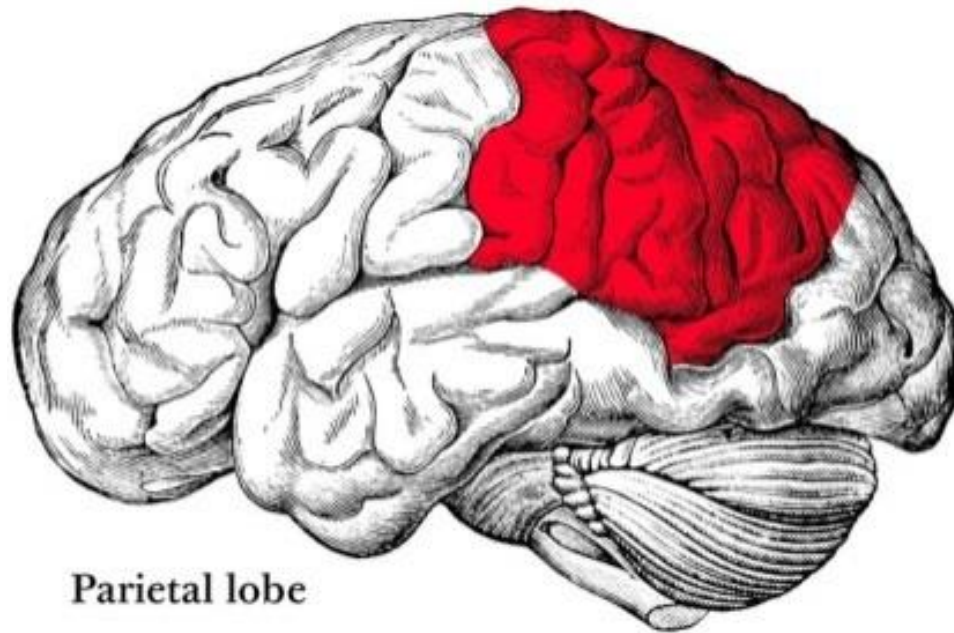
- Forgetting to do things, conversations, instructions, decision that were made
- Difficulty learning new tasks or behaviors, following through on behavior change
- Misperception, confusion or memory loss---can lead to suspiciousness
- Frustration with effort, difficulty or failure

ABIOS, Jacobs

Parietal Lobe



Understand & integrate
info from senses



Parietal lobe

Piece together & form
concepts from senses



Parietal Lobe



Spatial awareness, perception & location of objects and persons in space, understanding of own body in space & perceptual processing of information

- Trust & confidence in self, others & environment
- Effort and energy to carry out ADL's (fatigue, irritability, frustration)
- Difficulty carrying out learned purposeful movements-- despite having the desire and the physical ability to perform the movements
- Eye-hand coordination

- ABIOS, Jacobs

Parietal & Temp Lobe



Use of language to communicate with others

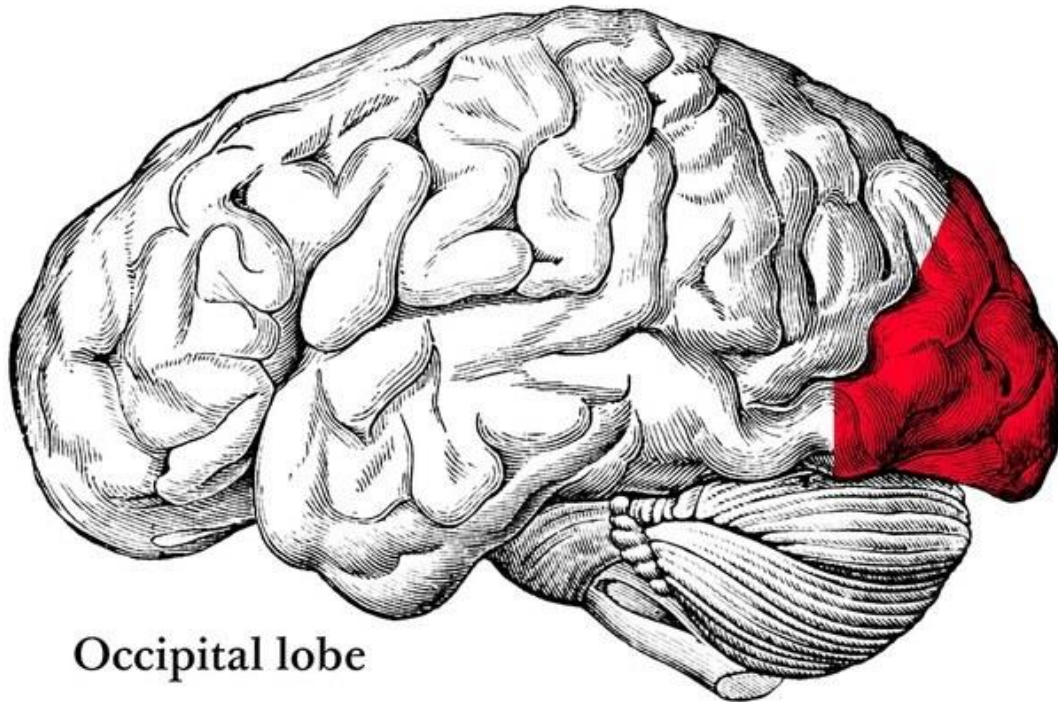
- Misunderstanding communication & social cues
- Difficulty understanding others can lead to irritability, anger, frustration
- Difficulty expressing ideas, feelings, preference
- Difficulty regulating voice tone, volume, rapid rate of speech-may seem irritable, angry

- ABIOS

Occipital Lobe



Visual Perception



Occipital lobe

“retinal process” vs.
“cortical (brain) process”

Occipital Lobe



Damage to the occipital lobes causes:

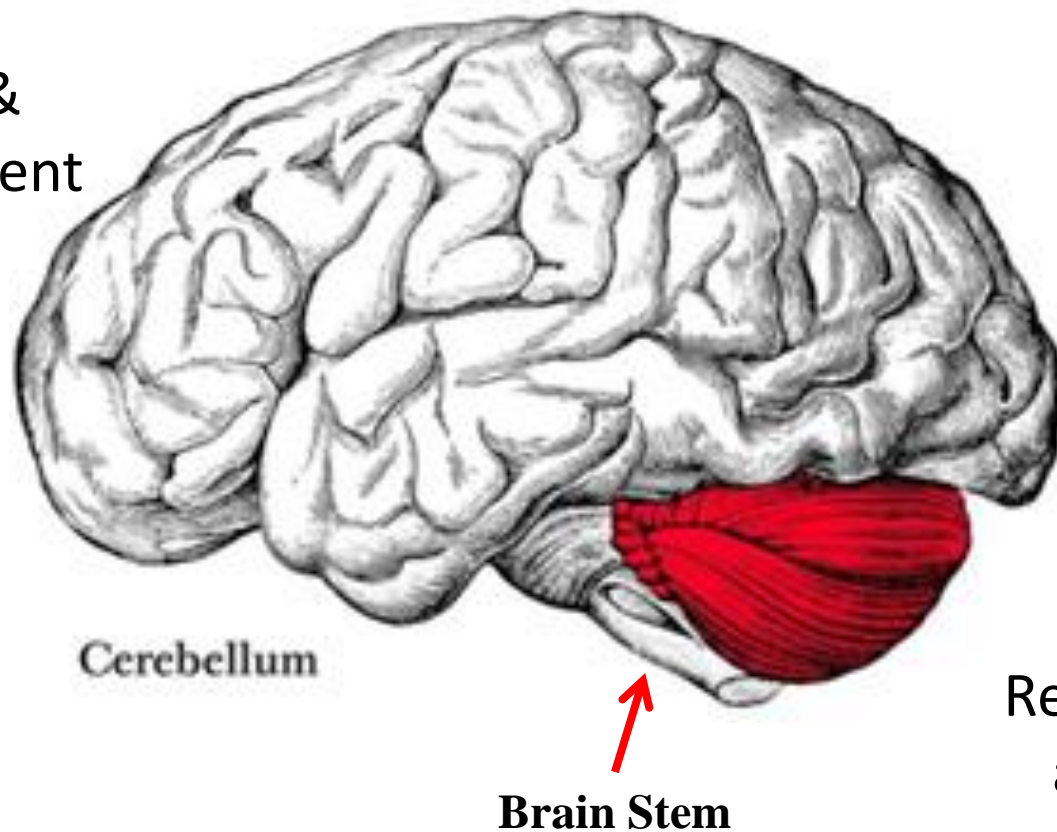
- Blindness
- Partial defects in vision (like a TV where only parts of the screen work)
- Locating objects in the environment
- Identifying color
- Recognizing the movement of an object
- Problems with reading and writing

Jacob

Cerebellum & Brain Stem



Coordinate
balance,
equilibrium &
muscle movement



Regulation of
arousal &
alertness

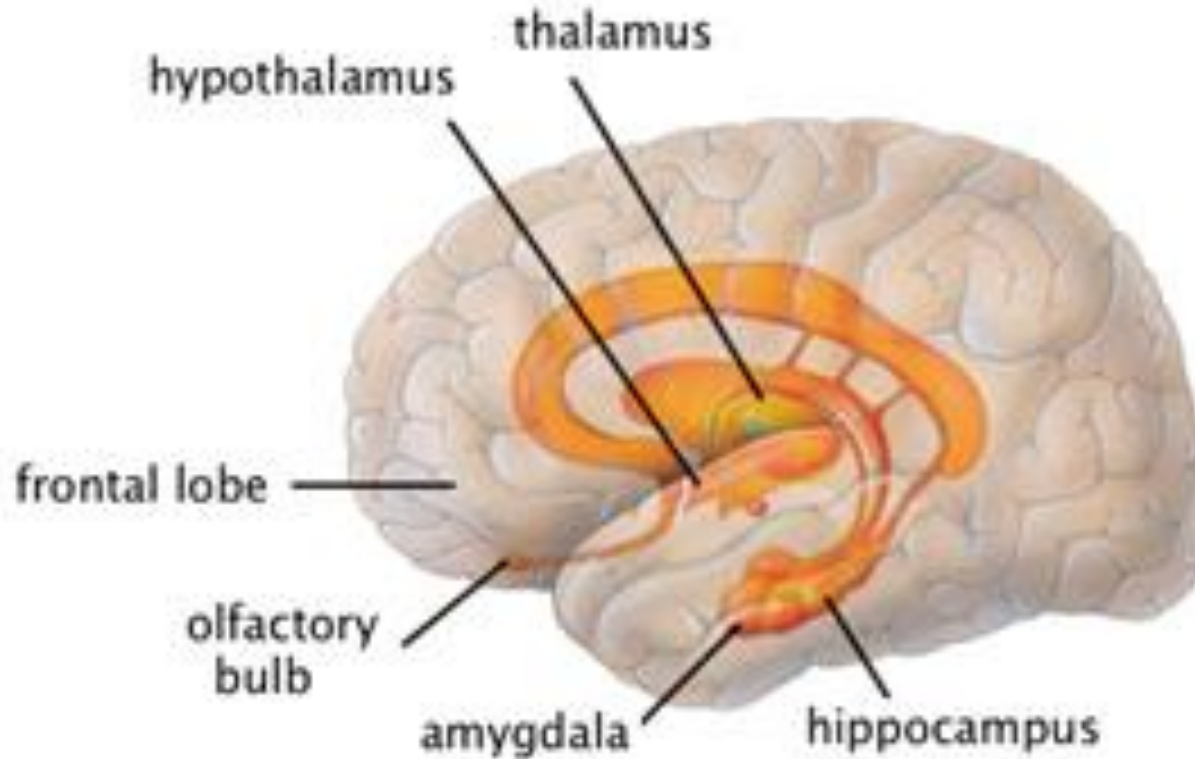
Cerebellum & Brain Stem



Balance, equilibrium, muscle movement/ Regulation of arousal & alertness

- Control of physical functions & mobility
- Sleep regulation, sleep disorders
- Tiredness or fatigue
- Sensitivity to noise, light, heat, cold, fatigue—can lead to irritability, low frustration tolerance
- May lack interest and motivation in previously enjoyed activities or interests
- Cognitive challenges following cerebellum damage can include problems with management of emotions, anticipation and the ability to anticipate consequences

Limbic System



Basic emotions, memory & motivation “survival”

Limbic System



Perception & understanding of emotions & mood, of self and others, regulation of emotional state

- Emotional lability or rapid mood changes
- Lack of empathy or responsiveness to others emotions
- Egocentricity or focus on self---may seem self-centered
- Impatience or low tolerance of others
- May want needs met immediately and have difficulty waiting
- Irritability & anger
- Anxiety & depression

Post-Injury Factors



Post-Injury factors



- Life changes
- Losses such as inability to work, inability to drive,
- Changes in relationships
- Limited independence
- Ongoing communication, cognitive or physical mobility changes

ABIOS, INESSS-ONF

The Environment



- It is important to consider the context within which the behavior is occurring...the level of noise or activity in the environment or the demands of therapy provoke fatigue and associated irritability or agitation.
- One study showed that the majority of aggressive outbursts were associated with demands coming from the environment (Rahman, Oliver, & Alderman 2010)..

Ponsford, Sloan, Snow

Mental Illness



- Emotionally charged behavior such as confusion and frustration may also indicate the individual is experiencing a mood or anxiety disorders.

Reaction to Disability:
Frustration, irritability,
depression & other strong
emotional reactions

Managing Behaviors



Consistency

Realistic
Goals

Non-
Judgemental
atmosphere

Trusting
Relationships

Team



Positive Behavior Strategies



- **Positive Choices**

- People will behave better if they have meaningful daily activities, experiences and choices
- Focus on increasing the persons self-worth, confidence and pride in themselves
- Focus on abilities and strengths

- **Have Realistic Expectations**

- Set tasks and goals that are within the persons ability—not too easy, not too hard
- Don't expect more from the person than is possible-unrealistic demands create stress and stress worsens behavior

Positive Behavior Strategies



- **Have a routine & provide structure**
 - Let the person know of any changes that are coming up—plan ahead
 - Having structure is important because it reduces the demands on cognitive and memory function.
- **Set Clear Limits**
 - Let the person know what is expected of them and why
 - Set the limits early & clearly—write them down and repeat them
 - Be clear about your role and don't set limits you can't stick to

- ABIOS



Positive Behavior Strategies



- **Improve Communication**
 - Listen to the person—get to know their likes & dislikes
 - Find topics that interest & motivate, support them to set their own goals
 - Let them know what you are doing and why
- **Give & Accept Feedback**
 - Feedback should be clear, direct & immediate
 - Positive & encouraging vs. critical or punishing
 - Admit when you have made a mistake

- ABIOS

Positive Behavior Strategies



- **Stay Calm**

- Check your own behavior, model the behavior you expect
- Think about what you say, your tone of voice, loudness of your voice, body language, facial expression, how you feel and what you are thinking.
- Don't take it personally

- **Be Respectful**

- Treat the person like an adult---Involve them in decision-making
- Talk about their options--- let them make real choices wherever possible
- Find out what they like and dislike---don't push your own ideas or preferences

- ABIOS



Positive Behavior Strategies



- **Re-direct & shift focus**

- Ignore behaviors of concern that you know are unlikely to change e.g. swearing, gestures, facial reactions---carry on activities as if these behaviors are not there
- Redirect or distract the person to another topic or activity
- Use a sense of humour to break the tension and redirect the conversation onto something different
- Plan breaks and change activities
- Have a few different ideas ‘up your sleeve’
- Wait until things calm down and try again later.

- ABIOS

Case Examples



Mrs . A



- 62 year old woman with an anoxic brain injury

Behavior concerns:

- Husband reports that she is not the same,
- She doesn't like to go out anymore
- When they are out she becomes agitated and angry
- Recently while shopping at the mall with her spouse, she verbally “snapped” at a sales clerk
- Both the client and husband became upset and they left. They haven't gone out to any public venues since.

Mrs .A Pre-injury Factors



- She has never liked going to the mall
- She worries about money and always feels a bit stressed when spending money on herself
- Before the injury typically shopped on her own vs with her husband

Mrs .A Injury-Related Factors



- Hypersensitive to noise
- Cognitive fatigue
- Slowed speed of processing
- Difficulty filtering and focussing her attention when there is competing stimulation i.e. other people talking, movement in the environment

Mrs .A Post-Injury Factors



- She had already been to several other big box stores prior to going to the mall on the day of the incident
- She feels embarrassed by her cognitive changes and often feels agitated &/or anxious
- She wasn't able to keep up with the sales-clerk's questions
- She had asked to leave earlier however her husband had encouraged her to stay because she hadn't purchased everything on her list

Mrs .A Management Strategies



- Limit how many stores she goes to in one shopping trip
- Shop at a quieter time of day/day of week
- Put a time limit on how long she will be in the mall.
- Shop with a list to eliminate need for her to use energy mentally rehearsing what she needs
- Wear ear plugs

Mrs .A Management Strategies



- Don't try to have a conversation while in the busy areas or while walking--go to quiet area of the mall and make direct eye contact while talking
- Take breaks—stop and sit and have a tea
- Client and Spouse watch for early warning signs of agitation and communicate need for break



Mr. B - Situation



- 68 years, recent hemorrhagic brain injury not able to live at home so has moved to a retirement residence

Behavior concerns:

- Since moving to the retirement residence he is withdrawn, tearful, spending a lot of time alone and not really coming out of his room. Spending a lot of time sleeping and in P.J's.
- Very withdrawn when family visit or call

Mr .B Pre-Injury Factors



- Prior to the injury was still working long hours in a helping profession, was independent with self-care and transportation and had no major health concerns.
- His family explained that pre-injury he was:
 - always busy, hated being at home, was always on the go
 - spent significant amounts of time helping others both through the health care work he did and also in his personal life.
 - He was the “go to guy” if you had a problem

Mr. B Injury-Related Factors



- Balance issues,
- Pain in legs,
- Short term memory challenges,
- Problems with divided attention and slower speed of processing.

Mr. B Post-Injury Factors



- Diagnosed with an Adjustment Disorder vs. Major Depression
- He felt like he was “younger” and different from the other residents in spite of his change in cognitive and physical status
- He felt like people thought he was “stupid” since his injury and that he had no purpose anymore and didn’t know what to do

Mr. B Management Strategies



- RT connected the client with a weekly group at the older adult centre and practiced using handi-transit so that he could “Leave the residence” for periods of time.
- Family members also created a “visit schedule” to ensure that his visits were spaced
- They would take him out even if just for a short drive or walk around the grounds.

Mr . B Management Strategies



- RT worked with staff of the residence and found a small daily task that Mr. D could help with giving him ‘a small job’
- Mr. D started playing board games in the common area of the residence, before long there was a group of residents who had joined the “board game club” and family members and friends who would visit and see the club in action started donating games

THANK YOU!



It's all fun and games until
someone figures out
the function of your
behavior.



somee cards

Wendy Crowther-Rakochoy, M.A., C. Psych. Assoc.
wecrowtherrakochoy@hsnsudbury.ca



QUESTIONS?



References



- ABIOS www.health.qld.gov.au/abios Accessed Nov 2018.
- Baguley, I. J., Cooper, J., & Felmingham, K. (2006). Aggressive behavior following traumatic brain injury: how common is common? *Journal of Head Trauma Rehabilitation*. 21(1), 45-56.
- Brainline.org accessed Nov 2018.
- Canadian Stroke Best Practices www.strokebestpractices.ca Accessed March 2017.
- Cantor, J.B., Bushnik, T., Cicerone, K., Dijkers, M.P., Gordon, W., Hammond, F.M., Kolakowsky-Hayner, S.A., Lequerica, A., Nguyen, M., & Spielman, L.A. Insomnia and fatigue & sleepiness in the first 2 years after traumatic brain injury: an NIDRR TBI model system module study. *J. Head Trauma Rehab.* 2012. Nov-Dec; 27(6).
- Clinical Practice Guidelines for the Rehabilitation of Adults with Moderate to Severe TBI. October 2016. <https://braininjuryguidelines.org>
- Eisenberg, M. E., Im. B., Swift, P., & Flanagan, S. R. (2009). Management of Traumatic Brain Injury-Related Agitation. 21(3-4), 215-229.
- Evidence-Based Review of Moderate to Severe Acquired Brain Injury (ERABI). www.abiebr.com (accessed Nov 2018).
- Falconer, J. Behavior management in residential brain injury settings. www.biaoregon.org accessed Nov 2018.
- Jacobs. Harvey E. Understanding Everybody's Behavior After Brain Injury Don't "Don't!"., Lash & Associates Publishing/Training Inc. c. 2010.
- Janzen, S., McIntyre, A., Meyer., M., Sequeira, K., & Teasell, R. (2014). The management of agitation among inpatients in a brain injury rehabilitation unit. *Brain Injury*, 28(3), 318-322
- Ponsford, J. Cognitive & Behavioral Rehabilitation From Neurobiology to Clinical Practice. Guilford Press, c 2004.
- Ponsford, J, Sloan, S & Snow, P. Traumatic Brain Injury Rehabilitation for Everyday Adaptive Living. Psychology Press. C 2013.



References



- Sabaz, M., Simpson, G. K., Walker, A. J., Rogers, J. M., Gillis, I., & Strettles, B. (2014). Prevalence, comorbidities and correlates of challenging behavior among community dwelling adults with severe traumatic brain injury: a multicenter study. *Journal of Head Trauma Rehabilitation*, 29(2), E19-E30.
- Tateno, A., Jorge, R. E., & Robinson, R. G. (2003). Clinical correlates of aggressive behavior after traumatic brain injury. *Journal of Neuropsychiatry and Clinical Neurosciences*. 15(2), 155-160.
- Tyrerman, A & King, N; *Psychological Approaches to Rehabilitation after Traumatic Brain Injury*, Blackwell Publishing Ltd, c 2008.
- Warriner, E. M., & Velikonja, D. (2006). Psychiatric disturbances after traumatic brain injury; Neurobehavioral and personality changes. *Curr Psychiatry Rep*. 8(1), 73-80.
- Wolffbrandt, M. M., Poulen, I., Engberg, A. W., & Hornnes, N. (2013). Occurrence and severity of agitated behaviour after severe traumatic brain injury. *Rehabil Nurs*. 38(3), 133-141.

