

Reducing Agitation and Aggression after Traumatic Brain Injury

A patient of mine, “Mike,” sustained a traumatic brain injury and had immediate, frequent verbal outbursts and was occasionally physically aggressive. He would yell and make very disturbing postures and threats.

After several sessions of very simple, repetitive breath control practices, Mike began to take deep breaths independently whenever he felt his anger arise, and would proudly proclaim “I am breathing...I am breathing!”

This young man was successfully able to achieve much greater self-control over his impulsive (and sometimes explosive) anger and he eventually discharged from treatment.

Mike’s story is not unusual among those with a brain injury. People will often experience periods of agitation immediately following an injury due to the disruption of neurological functioning and accompanying confusion. Some people who are recovering from brain injuries may continue to experience periods of agitation for months after their initial accident. A small percentage of people continue to experience states of agitation long after acute hospitalization, seriously disrupting their quality of life and creating many challenges for the people who care for them.

Causes of agitation and aggression

Agitation may best be defined as high irritability and displays of frustration that can include aggressive verbal and physical behaviors such as yelling, swearing, property destruction, striking others, and self-injury. In most cases, family members or caregivers are the most frequent targets. Fortunately, clinically derived treatments can help reduce or eliminate many of these problems that are specifically related to the brain injury.

Physical aggression has been studied by various scientific disciplines including biological, sociological, and cognitive processing theory.

Biologically, some studies indicate that high testosterone and low serotonin levels are associated with increased levels of aggressive behavior in people. People who are experiencing pain or high environmental temperatures have also been found to be more easily agitated. There is strong evidence that higher ambient temperatures increases human violence (*Psychological Bulletin*, 1989).

Behaviorally, a person may act out aggressively to get attention, to increase access to things they want such as



soda or candy, to escape or increase stimulation such as loud noises, or to avoid an unwanted task such as making one’s bed¹.

Cognitive challenges that occur after severe brain injury may contribute to frustration and agitation. Memory and attention deficits make learning very difficult. Speech and comprehension impairments can be equally frustrating. Imagine suddenly becoming unable to effectively communicate your needs or understand what others are saying. Add other problems like pain and physical limitations that make doing what was once routine, now impossible. In essence, independently getting one’s needs met after a brain injury can be fraught with frustrating hurdles.

Understanding basic features of agitation and aggression

Verbal aggression is the most common form of frustration that is exhibited. Raising one’s voice or swearing may be persistently or intermittently problematic. Threatening to act out physically can be impulsive, defensive, or in response to pain. Verbal aggression may be goal-directed to avoid unwanted task demands or events that are perceived as aversive. People may learn that threatening to get upset or act out may also get them things they want. This is best described as instrumental aggression. Over time, a person may use threats of “getting mad” to get others to do things that they can’t themselves or just don’t want to do. Posturing occurs by threatening to enter someone else’s personal space or by clenching or raising one’s fist. Verbal aggression and posturing

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may be the best indicators of impending physical aggression.

Physical aggression is defined as causing harm toward another person or oneself. Property destruction falls into this category (like punching a wall) and is a form of “re-directed” physical aggression. In treatment settings, events of physical aggression towards another person are uncommon and usually short in duration and low in intensity, but can be “crisis-like” for people not familiar with post-acute rehabilitation. Self-injurious behavior is uncommon but is often an expression of frustration and can be as serious as cutting oneself or banging ones head against objects.

Self-injurious and aggressive behaviors, and the settings they occur in, must be thoroughly understood to develop treatment plans to help reduce them.

Treatment works

Understanding a person’s cognitive strengths and weaknesses and incorporating them into individualized treatments plans is the focus of all disciplines of rehabilitation.

Speech & language pathologists help people redevelop both receptive and expressive communication abilities. Exercising specific cognitive domains with a supportive speech therapist

can greatly improve relationships and reduce frustration.

Everyone has communication strengths that can be emphasized, as well as, weaknesses that can be minimized by focused treatment in this area. All in all, better communication means less frustration.

Verbal techniques are recommended for verbal aggression¹. Not immediately responding to hostile verbal behavior provides a brief time out, and is an effective verbal intervention. Allowing someone to vent during a period of frustration and reducing the audience can lessen verbal outbursts such as yelling or swearing. By allowing for time to process this information, people can move toward more socially accepted methods of gaining attention, asking for help, or accepting “bad news.” A consistently used phrase such as “I will talk to you about this when you are calm” may provide the cue needed for someone to stop yelling or using profanity.

Physical therapists help a person to regain functional effectiveness and thus reduce frustration by relearning how to move independently, safely, and successfully. As fatigue can be an antecedent to irritability, strengthening muscles in therapies and exercising regularly helps build endurance. In addition, recognizing that a patient may need to take breaks during certain tasks can help by providing everyone with reasonable expectations of performance and to plan accordingly.

In a comprehensive level of care program, occupational and vocational therapies also add an extremely important dimension by helping people develop the skills necessary to safely complete activities of daily living and thus vastly improving independence.

Recreational therapists help people to relearn the all-too-familiar management of downtime, with fun, social, and constructive planning and assistance to provide the highest quality of life and to reduce the potential frustration of believing that there is “nothing to do.”

Behavioral therapy is a treatment used with people who are easily agitated after their injuries. Having a psychologist conduct a functional analysis of specific problem behaviors can help determine why someone continues to act out verbally or physically long after their initial injury. Intermittent displays of frustration, whether verbal or physical, can almost always be reduced or eliminated in frequency, duration, or intensity by providing a safe environment with people who are prepared to deal with these problems in an atmosphere of unconditional positive regard.

Effective Strategies for Reducing Aggression

1. Allow a verbally aggressive person time to vent.
2. Use language such as “I will talk to you about this when you are calm.”
3. Use breathing control strategies to reduce agitation.
4. Implement reward strategies that reinforce self control such as non-contingent rewards.
5. Use collaborative problem solving. Provide empathy, help the person to define the problem, invite them to help solve the situation collaboratively.

Reducing Agitation *continued*

Anger management

At Rainbow Rehabilitation Centers, mental health therapists help patients redevelop their emotional regulation abilities. Most people respond very well to a combination of breath control practice and cognitive therapy to reduce the duration or intensity of periods of agitation². Teaching these behavioral and thinking skills in therapy sessions and modeling them outside of formal sessions will help increase generalization.

Collaborative Problem Solving (CPS) is another well-constructed strategy when working with people who have explosive tendencies⁷. This method helps integrate a person's level of executive functioning and emotional regulation into a system of interaction that pursues reasonable expectations, reduces outbursts, and teaches skills.

The essence of CPS involves a three-step plan:

1. Providing empathy (plus reassurance) toward the person
2. Defining the problem situation
3. An invitation to collaboratively solve the issue.

Empathy is where a person's feelings are heard by another person in a supportive relationship and is a core tenet of humanistic psychology³. Used unconditionally, empathy reinforces active communication. Identifying the specific problem behavior with the patient in explicit, understandable terms helps generate greater awareness. Invitation is the process that engages the patient to brainstorm with the therapist ways to solve the problem, thus actively rehearsing executive functioning and problem-solving skills.

Other proven treatment strategies

Reward programs can reduce both verbal and physical aggression. Implementing reward strategies that reinforce self-control, and don't reward acting out, is an important key to progress in rehabilitation.

Non-contingent rewards (NCR) provide access to enjoyable activities and attention are supplied or scheduled throughout the day. Basic needs, attention, and preferred activities are provided for unconditionally². There are indications that this type of reward system probably achieves, over time, the greatest reduction in problem behavior and greatest quality of life.

Differential Reward for Other (more appropriate) behavior (DRO) requires more planning and adjustment during treatment, but is proven to be effective at reducing problem behaviors such as self-injury and physical aggression⁴. The rewards used to shape behavior can be: giving attention, tangibles (such as spending money), or a time out from a task demand.

Rainbow Rehabilitation Centers incorporates this

methodology into its Adult Levels Program.

"The Adult Levels Program incorporates a client's goals with clinical time frames that everyone can see, understand, and refer to," said Dr. Colin King, director of Behavioral Services at Rainbow and developer of the Adult Levels Program. "The Adult Levels Program was developed using proven behavior modification strategies such as differential rewards."

A specific example of how this works is when someone, who receives an allowance that is only intermittently contingent upon behavior, continues to act out in an unsafe or agitated manner. Making their allowance consistently contingent upon not acting out for specific periods of time (such as daily or weekly) has helped many people overcome serious behavior issues.

Rewards that are consistently contingent upon periods of stability have been shown to reduce problem behaviors⁵. Thus, DRO is a form of contingency management and is effective in reducing problems such as self-injurious behavior and physical aggression². Family education and the involvement of the entire treatment team may be required for this to be successful.

Transitioning from non-contingent schedules to more differential or contingency-based schedules will help someone achieve greater levels of stability. This is done by making rewards (such as attention or tangibles) more contingent upon longer periods of stability, and has been shown to reduce problem behaviors⁵.

Integration of substance abuse recovery into brain injury rehabilitation has greatly helped many people be successful. At Rainbow, Certified Advanced Addictions Counselors can be actively involved in treatment planning, as well as provide individual counseling. Facilitated groups are held at Rainbow and transportation is provided to community-based support groups (such as Alcoholics Anonymous) when a person is ready. Referrals to addictionists (physicians specializing in substance abuse disorders and pain management) are made when indicated and incorporated into the comprehensive treatment plan.



Reducing Agitation *continued*

Medication

The use of medications in many cases can have demonstrated benefits in reducing agitation and aggression. In cases where there is depression associated with problem behavior, certain anti-depressant medications have also shown efficacy in providing relief from persistent agitation or aggression.

Selective serotonin re-uptake inhibitors (SSRIs) have shown to reduce agitation in some cases where there is high irritability associated with depression. Anti-epileptic medication and certain anti-hypertensive medications have also been shown to help some patients suffering from anger management problems achieve greater stability.

For more serious or generalized aggression, sedative or anti-psychotic medications may greatly improve a person's ability to cope. All medication programs that include psychotropics require regularly scheduled assessment by physicians experienced in brain injury rehabilitation to ensure that the safest, best tolerated medications are used for improvement in self-control.

Safety First

Crisis prevention and intervention training is also used by health care professionals to provide for the safety and security of their patients¹. At Rainbow, employees are required to maintain certification with the International Association of Non-violent Crisis Intervention (IANCI), attending classes every year with mandatory competency tests. When interventions are conducted by professionals using proven and safe strategies, people learn how to control their behaviors, enjoy life, and reach their potential. When plans of care are person-centered and adjusted for individual needs, most people who are initially challenged with profound frustrations can learn over time to defeat these obstacles and progress safely, productively, and happily. ❖

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