

## Tutorial: Impulsiveness / Disinhibition

### WHAT IS IMPULSIVENESS?

An individual who is impulsive has difficulty inhibiting strong responses, desires, or emotions, stopping an ongoing activity, and inhibiting competing responses during delays or quiet times in activities. Everybody has trouble inhibiting impulses from time to time – certainly anybody who has ever been on a diet recognizes impulse-control problems as the powerful force that they can be. Young children are perhaps the best example of impulsiveness or lack of inhibition. Toddlers, for example, explore everything in their environment regardless of danger to themselves or vulnerability of what they are exploring. Their environment needs to be strictly controlled to keep them safe and under control.

Adequate impulse control implies that an individual is able to control observable behavior, as well as thoughts and emotions. Individuals who are impulsive have difficulty inhibiting their emotions and have difficulty quieting their emotions when they occur. For example, a student who lacks impulse control may react to teasing from others with anger followed by uncontrolled escalating anger. These poorly controlled inner emotions then easily lead to poorly controlled, impulsive reactive behavior.

Individuals who are impulsive also have difficulty controlling their impulsive thinking. These impulsive thoughts lead to “one-stop shopping” in academic work. For example, a student may respond to a teacher’s question or test item with the first thought that enters her mind, only to belatedly consider the long-term outcomes of the approach taken.

Impulse control problems can lead to many other difficulties. For example, impulsive individuals have difficulty formulating goals (other than immediate goals), creating plans to achieve the goals, and implementing the plans. They often have difficulty deferring gratification, accepting some small immediate reward rather than waiting for a larger pay-off. They often have severe organizational problems, both organizing their things (e.g., items in their desk at school) and organizing their thoughts. Their expressive language – spoken and written – might be rambling and disconnected, with no logical order. They may have a weak sense of time, not recognizing, for example, that the test on Friday is coming quickly, requiring action now.

Attention deficit hyperactivity disorder (ADHD) is one of the most common disability diagnoses in childhood. The most highly regarded theory of ADHD, advanced by Russell Barkley, is that impulse control problems – difficulties inhibiting emotions, thoughts, and behaviors – lie at the core of the disorder. Impulse control problems lead to other problems with self-regulation: (1) difficulty regulating emotions, arousal, and motivation, (2) difficulty organizing thoughts and behavior, (3) difficulty directing oneself with internal speech, and (4) difficulty holding items in mind long enough to reflect on them (working memory).

### WHY IS IMPULSIVENESS IMPORTANT FOR MANY STUDENTS AFTER TBI?

Many students with TBI had a pre-injury diagnosis of ADHD. It may have been their impulsiveness or high activity level that placed them at risk for their injury. These children typically experience an increase in their ADHD symptoms after the injury.

However, even without a pre-injury diagnosis of ADHD, many students with TBI have symptoms very similar to those with a diagnosis of ADHD. They have difficulty inhibiting thoughts, emotions, and behaviors; they are disorganized in their thinking and acting; they have difficulty regulating themselves with self-talk, and they have difficulty modifying their behavior in response consequences (rewards and punishments). These problems are associated with damage to the frontal lobes. Students with impulse-control problems appear to be immature relative to their age and relative to their other abilities.

## **WHAT ARE THE MAIN THEMES IN INSTRUCTION AND SUPPORT FOR STUDENTS WHO ARE IMPULSIVE?**

### **Understanding the problem**

As always, the first task for teachers and parents is to correctly understand the problem. If neuropsychological testing or systematic real-world exploration reveals impulse-control problems related to the brain injury, then the following intervention and support options should be considered.

### **Pharmacologic Intervention**

The psycho-stimulant medications often used with students with ADHD may be useful for students with impulse control symptoms after TBI. However, thoughtful consideration of all brain injury related environmental control strategies and other types of medications should be considered prior to a decision to treat the ADHD-like symptoms with medications.

### **Environmental Control Strategies**

A. “Child Proofing” Strategies: Much of the intervention for students who are impulsive is environmental, that is, teachers and parents control the environmental events outside of the student to reduce the likelihood of negative impulsive behavior. These environmental controls can be understood as aspects of “child proofing” the environment, much as one “child proofs” the environment for the safety of a toddler. These environmental modifications should be understood as analogous to the ramps, lifts, and the like needed for people in wheelchairs. Carefully organizing the environment is not “coddling” the student, but rather implementing a procedure based on recognition of a genuine neurological need. In a school setting, child proofing the environment has the following components:

1. Childproof the physical environment: Make sure the students are not exposed to dangerous situations; make sure that they are not overly tempted by readily accessible and highly desirable things that predictably distract them from the task at hand or elicit impulsive or negative behavior.
2. Childproof the activity environment: Make sure that the students are capable of doing all that is expected and requested of them. If the adult is the student’s collaborator (i.e., partner or team member – versus tester or drill master), then the student will always be better able to complete the task. This approach can lead to students becoming more independent as they gain competence and confidence in completing a given activity.
3. Childproof the social environment: Make sure that students are with other students with whom they are reasonably compatible. Prevent social interactions that are threatening or cause agitation. Make sure that informed and supportive adults are with the students during predictably difficult times and tasks.
4. Childproof the expectation environment: Make sure that expectations for the student’s performance and participation are appropriately adjusted relative to abilities, stressors, moods, illness, tough times, and the like. For example, parents of two-year olds try hard to make these adjustments – and it is important in school as well, in the case of students who are particularly immature in self-regulation.
5. Childproof the known stressors, such as transitions and changes in routine: Students with impulse-control weakness have difficulty handling transitions (even apparently simple transitions from, say, snack back to work) and expected as well as unexpected changes in routine. Try to insulate the student from such identified stressors by careful planning and providing needed preparation and special support during transitions and at times of change in routine.

B. Behavior Management Strategies: Several critical behavior management guidelines apply to children who have impulse-control problems.

1. Reliance on “Antecedent Control” Rather than Consequences of Behaviors: Students who are significantly impulsive do not respond effectively to behavior management systems that rely on consequences. There are two reasons for this ineffectiveness in students with TBI. First, the student’s impulses typically over-ride any behavior management associations that have been created by previous rewards and punishments. Second, the part of the brain that enables humans to control their impulses (“orbito-prefrontal cortex”) is the same part of the brain that enables humans to learn from consequences or benefit from feedback. Therefore, behavior management systems that rely on learning from consequences predictably fail for these students. The student might “know what to do”, but nevertheless not do it. That is, impulsiveness creates a breakdown between knowing and doing.

Teachers and parents should not frustrate themselves and the student by relying on consequences to effectively shape the behavior of these students. The golden rule should be “a pound of prevention for every ounce of reaction.” **[See Tutorials on Positive Behavior Supports; Behavior Management; Prevention Strategies]**

2. Immediate Consequences: If consequences are used in the management of behavior, the consequences need to be immediate since (1) the student’s attention and self-control problems may make it impossible to control behavior in anticipation of a distant reward and (2) the student’s impairments in memory may limit longer term recall of impulsive behaviors. It is unreasonable, for example, to expect an impulsive student to change behavior with the threat of losing free time later in the week or at the end of the day. The time delay is too great for this to have an impact. Among other problems, the student’s weak orientation to time and long-term memory difficulties render these consequences relatively useless.

3. Obvious “Salient” Consequences: If consequences are used in the management of behavior, they should be clear, obvious, and immediate. For example, tangible rewards would be more likely to have an impact than verbal praise alone. For students who are both impulsive and hyperactive, activity rewards – being allowed to engage in special physical activity – should be used liberally.

4. “A Pound of Positive for Every Ounce of Negative”: When consequences are used in behavior management, adults should try to ensure that the consequences are largely rewards for positive behavior versus punishments for negative behavior. For example, students should receive intense praise for raising their hands as opposed to punishment (e.g., losing points) for talking out of turn. Emphasis on the negative tends to breed greater negativity and a growing sense of self as incompetent. It has been shown that public reprimands for negative classroom behavior increase rather than decrease that behavior in the case of impulsive students.

C. Other Environmental Management Strategies: In addition to the five “child proofing” strategies listed above, there are other environmental management strategies that might be useful in preventing undesirable impulsive behaviors:

1. Well organized schedules and routines: Both at school and at home, schedules and routines should be as consistent as possible. Schedules may need to be represented by ordered pictures, or written words embedded into personal organizers. At home, the schedule should be organized around homework, chores, family times (e.g., meals), and the like. Students who are impulsive generally organize their behavior more effectively when the world around them is organized effectively. At the same time, too much routine may cause boredom and impulsive “novelty-seeking” activity for stimulation. Thus routines should be accompanied by adequate reward activities, humor, and other forms of valued activities to prevent boredom.

2. Prompt Cards: Prompt cards reminding the student what to do and when to do it may be needed as a substitute for the “voice in the head” reminder system that highly impulsive students lack. These prompt

cards can be controlled by the adult (teacher or parent) or controlled by the student as a system of self-cuing.

3. **Teacher-Directed Lessons:** Learning activities in which the teacher plays an active role in engaging the students are easier for impulsive students than quiet seat work or other student directed activities. The more interesting the learning projects and materials, the better. When self-directed seat work is required, teachers should check in regularly with impulsive students to ensure that they remain on task. During lectures, ask the impulsive student questions as a preset to listen for specific information.

4. **Reasonably Fast-Paced Tasks and Redirection of the Student:** Students who are impulsive and distractible generally perform better when their tasks are fairly fast paced (consistent with their processing abilities). Pauses, down times, and low stimulation times are often occasions to drift off or engage in impulsive behavior. Directed refocusing is necessary when an impulsive student becomes distracted during a task.

5. **Clear, Repeated, and Pictured Instructions:** Impulsive students tend also to be disorganized. Very clear and repeated instructions are necessary. Instructions may also be written and possibly also graphically represented (e.g., photos or symbols).

6. **Breaking Large Tasks into a Series of Small Steps:** Impulsive students easily get “lost” in large tasks, resulting in an increase in off-task impulsive activity. The students do better with a series of small tasks with clear markers of completion for each step.

7. **Careful Maintenance of Topics:** Impulsive, easily distracted students have difficulty following disorganized conversations, lectures, and the like. In classroom or home discussions, teachers and parents should try to maintain topics rather than jumping from topic to topic. Topic shifts should be clearly announced ahead of time. In group discussion, provide some sort of physical “talking stick” that gets passed from speaker to speaker and indicates who should be talking at any given time. This helps prevent talking out of turn. Parents and teachers need to provide direct feedback to the student when he goes off topic and provide links back to the original topic to help the student refocus.

8. **Clear Transition Routines:** [\[See Tutorial on Transition Routines\]](#)

9. **Appropriate Levels of Stimulation:** Some students who are impulsive and easily distracted do best in quiet, low stimulation environments. Other students may do better in more stimulating environments since these students have more difficulty with the internal distractions when placed in quiet environments. These students may attend and learn more effectively in familiar, but more stimulating environments. Identifying the appropriate level of stimulation may require some exploration.

10. **Peer Interaction or Teacher’s Assistant Roles:** It is often useful to engage impulsive students positively with brief peer interaction activities during lessons or with teacher helper activities.

11. **Activity Breaks:** Students who are impulsive are also often energetic, needing regular physical activity. Transitions between activities are good times to engage in some sort of physical activity to discharge energy and get ready for the next activity. Frequent breaks may be useful. Impulsive students should be given structured physical activities to complete during these breaks.

12. **Choices:** For students who are both impulsive and oppositional, ensuring that they have some choices to make within their school and home routines is essential. Providing two or three options to choose from is often helpful for these students.

13. **Organization for Large Projects:** Work with the student to map out large projects into do-able steps, starting early and setting small deadlines towards task completion. Graphic organizers are very helpful in

allowing students to monitor their progress in completing agreed upon tasks. **[See Tutorial on Organization: Graphic Organizers]**

### **Student Self-Management Strategies: Change the Student versus the Environment**

The long-term goals for all students are not simply compliance, attention to task, and efficient learning. To be successful adults, students need to learn how to regulate their own behavior and learning without ever-present adult support. They need to become self-regulated. Thus, in addition to environmental strategies, home and school environments also need routines designed to allow a gradual increase in the student's responsibility for self-management or self-regulation. As always, adults must thoughtfully identify appropriate expectations and levels of responsibility that can be given to the student at any given time.

1. **Self-Regulatory Routines/Scripts:** See Self-Regulation/Executive Function Routines for information about self-regulatory self-talk and the adult-child scripts of interaction that lead to self-regulatory self-talk by the student. Of particular importance for impulsive students are the "Ready/Not Ready" script and the general "Goal-Obstacle-Plan-Do-Review" (GOPDR) script. A habit of asking "Am I ready?" helps to block impulsive decision making and behavior. The general GOPDR script helps to create a habit of planful behavior as well as self-monitoring.

2. **Self-Organized Tasks:** Starting in the early elementary years and extending through high school, adults should engage students in collaboratively breaking large tasks into parts that can be organized effectively. Gradually over time the responsibility for organizing tasks should be turned over to the student. Logging of steps to complete each project should be written in an organizer and reviewed with the student to help the student gain confidence in organizing and following through on component steps in a project.

3. **Self-Imposed Deadlines:** As with general organization of their tasks and activities, impulsive students should increasingly be given responsibility for creating small deadlines for when the steps in a task need to be accomplished. An organizer can be used to monitor the steps that need to be accomplished and their completion of the steps.

4. **Self-Monitoring Systems:** Both at home and at school, adults should help impulsive students to create and use self-monitoring systems. These systems include checklists for keeping track of homework or household chores and organizers for long term tasks. **[See Tutorial on Self-Monitoring.]**

5. **Self-Stimulating Activities That Do Not Disturb Others:** Impulsive students who are also hyperactive tend to be physically active and may move or create disturbances for other students. However, movements may be necessary for the impulsive student to remain focused. Thus movement activities need to be identified that do not disturb others. For example, tapping a pencil that has a foam cover on the eraser end may satisfy the active student without bothering others.

6. **Self-Imposed "Cool Down":** Many students who are impulsive have difficulty controlling their emotions. Thus they may become over-emotional in school, leading to aggressive or other challenging behaviors. These students need help recognizing the first signs of rising emotion or agitation (called "triggers"), and learn to gradually take responsibility for then removing themselves from the potentially difficult situation. Many schools create opportunities for "self-time-out" for these students. Initially, parents and teachers may need to be more active in alerting a student about their rising emotions and recommend "cool-down time" for the student.

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