

# Monitoring Students with ADHD within the RTI Framework

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## Abstract

Students with Attention Deficit Hyperactivity Disorders (ADHD) can present unique behavioral and academic challenges within the school environment. The Response to Intervention (RTI) and Positive Behavior Interventions and Supports (PBIS) movements have sought to formalize intervention systems to address the needs of all children. An integral component is the need for initial and ongoing assessment strategies to guide decision making. The assessment strategies reviewed were selected to provide a menu of available resources to assist in matching assessment methods to levels of student needs within the RTI and PBIS framework.

## Keywords

Attention Deficit Hyperactivity Disorder (ADHD), Assessment, Monitoring

Students with Attention Deficit Hyperactivity Disorders (ADHD) can present unique challenges within the school environment. Research sponsored by the Center for Disease Control (CDC) reports that as of 2006, approximately 4.5 million children between the ages of 5 and 17 “*have ever been* [emphasis added] diagnosed with ADHD” (Bloom & Cohen, 2007, para. 1). In addition, approximately 5% of school aged children manage their learning experiences with ADHD (Pastor, 2008). While some children diagnosed with attention difficulties (with or without hyperactivity) also struggle with learning academic concepts, others primarily struggle with classroom behaviors that interfere with more general school functioning such as remaining seated, following directions, and engaging in appropriate peer interactions.

It is important to remember that the population of students diagnosed with ADHD is a heterogeneous one, and every child is an individual presenting unique characteristics. While this has been the essence of special education law, the advent of No Child Left Behind (NCLB) led to formalized programs to address the needs of all children struggling with academic or behavioral issues. The Response to Intervention (RTI) and the Positive Behavioral Interventions and Supports (PBIS) movements provide organized structures to guide efforts to ensure success for all children. Many have heard the term RTI; however, it seems prudent to begin this discussion with the definition offered by the National Center on Response to Intervention (2010):

*Response to Intervention integrates assessment and intervention within a multi-level prevention system to maximize student achievement and to reduce behavioral problems. With RTI, schools use data to identify students at risk for poor learning outcomes, monitor student progress, provide evidence-based interventions and adjust the intensity and nature of those interventions depending on a student's responsiveness, and identify students with learning disabilities or other disabilities (p. 2).*

The foundation of these movements is to coordinate efforts to provide quality academic programs and interventions focused on increasing positive behavior and scholastic achievement. A fundamental principle of PBIS and RTI is the notion that intervention schemes progress according to a “level” system beginning with school or class-wide instruction and assessment, moving to targeted interventions geared towards students experiencing difficulty and viewed as being at-risk, and ending with intensive, individualized intervention programs for students presenting continual deficits (NCRTI, 2010).

Typically, the RTI model includes three Tiers (sometimes referred to as Levels). Tier 1 targets all students and includes research-based academic and behavioral strategies implemented and assessed school-wide. In the behavioral realm, such strategies include teaching students appropriate behaviors, classroom routines and rules supported by a positive behavior recognition/reinforcement system. Screening data are collected and analyzed for all students. Tier 2 is designed to supplement Tier 1 strategies and includes small group intervention and more frequent progress monitoring. Tier 3 is reserved for small numbers of students who are not making adequate progress with Tier 1 and Tier 2 interventions and require more intensive interventions and assessment (Brown-Chidsey & Steege, 2010).

Literature exists summarizing levels of intervention and specific strategies targeting students with ADHD (e.g. Bender & Mathes, 1995; DuPaul & Stoner, 2010; Harlacher, Roberts, & Merrell, 2006; US Dept of Education, 2004.) and virtually all writings include a call for initial and ongoing assessment and monitoring. Pertinent to this discussion, however, is the reminder that “it is only after high-quality academic and behavior instruction and interventions are established at both the school-wide and classroom levels that schools could conclude that a student has a need for additional services” (Sandomierski, Kincaid, & Algozzine, 2007, p. 4). Thus assessment in the absence of quality interventions is futile except perhaps in the instance of

collecting baseline data. The purpose of this article is to provide a summary of practical behavior assessment techniques appropriate for teachers, behavior consultants, and other school personnel striving to help students with ADHD meet with success.

The assessment tools described below were selected to provide a menu of available resources to assist in matching assessment methods to levels of student needs within the RTI and PBIS framework. This list is not intended to be exhaustive nor does it include formalized, sometimes lengthy questionnaires and behavior checklists typically associated with initial diagnosis or eligibility for special education/504 services (e.g. the Behavior Assessment System for Children, Second Edition [BASC-2], Reynolds & Kamphaus, 2004), the Child Behavior Checklist (CBCL, Achenbach, 1991), and the Connors Rating Scales-Revised (CRS-R, Connors, 2000). The reader is referred to DuPaul and Stoner (2003) and Pelham, Fabiano & Massetti (2005) for a complete review. Intervention assessments are grouped by combinations of RTI Tiers, reflecting the dynamic nature of appropriate strategies as students receive support across the continuum.

## ■ COMBINATION ONE: TIER 1 AND TIER 2

### CURRICULUM BASED MEASUREMENT

A large percentage of the RTI research focuses on the academic side of school success. For students with ADHD who struggle with achievement deficits confounded by symptoms of ADHD, it makes sense to rely primarily on Curriculum Based Measurement (CBM), which covers a range of material and further investigation of specific skills with Subskill Mastery Measurement (SMM). Curriculum Based Measurement involves frequent (weekly or monthly) assessment of student skills in content areas such as mathematics, reading, and spelling. Teachers can select or make their own tests, commonly referred to as probes, to gather data throughout instruction. Student progress is then graphed to aid in communication with parents and other professionals and help students monitor, celebrate, and problem-solve to enhance their own learning.

Hunley and McNamara (2010) present a comprehensive description of types and variations of CBM and examples of applicable settings and cases. In addition, the IRIS Center ([www.iriscenter.com](http://www.iriscenter.com)) associated with Vanderbilt University offers an informative online training module that includes written and video instruction, application examples and exercises, and sample graphing and interpretation of data. It is important to note that the fundamentals of CBM are the foundation for quality behavior interventions.

### OFFICE DISCIPLINARY REFERRALS (ODR)

The number of discipline referrals, suspensions, or behavior incidents has been used to identify students at-risk for problem behaviors, moving from Tier 1 to Tier 2 levels of intervention. Discipline data are collected and stored for all students in a building and universal monitoring of types and numbers of office referrals in a Tier 1 activity. Students who exceed a predetermined cut-off number of incidents would then receive more intensive supports in small groups (Tier 2) to help students develop more positive behaviors. Office referral statistics can also

be analyzed during and after intervention implementation to help determine effectiveness (e.g. Crone, Hawken, & Horner, 2010; Sugai, Guardino, & Lathrop, 2007.)

### SCHOOL ARCHIVAL RECORDS SEARCH (SARS)

Developed by Walker, Block-Pedego, Todis, and Severson (1991), SARS is an intensive record review system designed to help school personnel evaluate factors evident in a student's school history. Rating scales for areas such as referrals for academic assistance, ODR, and attendance can be completed, preferably by different readers. Scores can then be compared to a normative sample.

### SCHOOL-WIDE INFORMATION SYSTEM (SWIS)

Created at the University of Oregon in the mid 1990's, SWIS is a web-based data management system designed to organize and monitor behavior of all students as well as specified groups and individuals. This system is based on ODR described above. The newest version of SWIS (May, Ard, Todd, Horner, Glasgow, Sugai, Glasgow, Sprague, 2010) generates reports including settings, type of behavior, time of day, and individual students most frequently identified in behavior incidents. Such information can then be used to target behaviors and develop interventions and supports to address areas of concern.

### SYSTEMATIC SCREENING FOR BEHAVIOR DISORDERS (SSBD)

The SSBD (Walker & Severson, 1992) is a standardized checklist system uniquely designed for use with an entire elementary school and assesses social skills as well as problem behaviors. The system includes rating scales appropriate for whole class and individual targeted students. Structured observation procedures can also be implemented to provide additional information about a student's behavior in structured and unstructured settings.

## ■ COMBINATION TWO: TIER 2 AND TIER 3

### CHECK IN – CHECK OUT (CICO) AND BEHAVIOR EDUCATION PROGRAM (BEP)

CICO (Sugai et al., 2007) and BEP (Crone et al., 2010) are two comprehensive assessment programs designed to support students identified as being at-risk for behavior difficulties and will likely include students exhibiting behaviors associated with ADHD. Similar to other assessment approaches, CICO and BEP begin with a clear definition of expected behavior. Next, students receive intensive direct instruction in appropriate social skill development. Immediate and delayed positive reinforcement is provided for appropriate behavior while contingent consequences are implemented in response to inappropriate behavior. Student monitoring cards are sent home to parents for recognition and returned to school which increases home-school collaboration. School personnel monitor student progress at regular intervals (e.g. every 1-2 weeks) and the program is increased, modified, or faded out contingent on student performance. Such close monitoring is designed to increase positive connections with adults in schools and provide opportunities to supplement with self-management techniques.

An example derived from Todd, Campbell, Meyer, & Horner (2008) follows: Bobby is a third grade student who has been

identified by his teacher as having difficulty following classroom rules resulting in frequent office referrals. The CICO program was initiated where Bobby checked in with school personnel at the beginning of the day and received a report card that listed three school rules. Three times during the day, Bobby approached his teacher who then rated Bobby's behavior on each rule using a scale of 1, indicating Bobby had difficulty following the rule, 2 indicating his behavior was acceptable, or 3 indicating his behavior was very good. At the end of the day, Bobby checks out with school personnel and is able to either spend the points he earned or save them for a larger prize. A parent report is then generated that includes the number of points Bobby received, comments about what went well during the day, and comments regarding specific improvements for the following day. Bobby takes his report card home for his parents to sign, returns it the next day, and receives his new card.

### DIRECT OBSERVATION OF BEHAVIOR

On the one hand, direct observation of behavior sounds like a very simple strategy where the occurrence of a defined behavior is recorded (i.e. number of times the student talks without permission, or the number of minutes the child remains seated). On the other hand, the reality of direct observation encompasses a number of variables to consider and choices to be made including what behavior(s) to measure, how and when to measure them, and how to share data.

The behavior of interest must be carefully defined to meet the "stranger test" where an unfamiliar person could describe the behavior to be observed and counted (Kaplan, 1995). Once the target behavior has been defined, decisions can be made about how data will be collected and when the behavior will be observed. Common approaches include frequency (sometimes referred to as rate) which refers to the number of times a behavior occurs within a specified period of time; duration is how long a behavior lasts; latency is how much time elapses before a behavior begins, generally associated with following directions or beginning assignments; intensity is how strong the behavior is and generally involves a rating scale; and topography refers to the form or shape of the behavior or what the behavior looks like. Sometimes behavior data is recorded whenever it occurs within a set time frame. Other times, a timer is set to prompt the observer to monitor the student and record information about behaviors that are occurring. To allow for quick comparison, data can be converted to percentages where the sum of the target behaviors within a set interval are divided by the total opportunities, multiplied by 100. The reader is encouraged to consult DuPaul and Stoner, (2003), Hunley and McNamara (2010), and Kaplan (1995).

Often it is most beneficial to record data on two behaviors within the same time frame, the appropriate behavior we want to increase and the inappropriate behavior we want to decrease (Kaplan, 1995). Also, in order to gain perspective, it is recommended that a similar peer be observed for comparison to a standard (DuPaul & Stoner, 2003). Such information will help educators and consultants determine if the behavior of concern is specific to the student or indicative of a more pervasive classroom management problem (Rhode, Jenson, & Reavis, 1996).

### THE INDIVIDUALIZED TARGET BEHAVIOR EVALUATION (ITBE)

This approach begins with specific target behaviors defined within a set situation such as a class period or a time limited event such as an assembly or recess. A goal statement or behavior objective is written to include the desired criterion or standard for success. At the conclusion of the time period, the teacher or observer determines if the goal was met and in the case of multiple goals, calculates the percentage of goals met. Student progress can then be communicated to other involved professionals and/or parents (Pelham, Fabiano, & Massetti, 2005).

For example, a student named Sammy has difficulty remaining seated during assemblies. Through observations of same aged peers, an appropriate goal statement was generated as follows: "Given an assembly, Sammy will remain seated 80% of the time." The behavior of remaining seated was measured by timing the number of minutes Sammy was in her seat within the time interval of the assembly. Data was collected during the assembly and feedback provided to Sammy and others at the end of the session. Modifications could be made by using smaller time intervals within the entire assembly time period with criteria established to reflect Sammy successfully remaining seated at a level greater than what she exhibited before the intervention was initiated, i.e. three out of five intervals.

### SELF-MONITORING

Undeniably, behavioral self-management is the ultimate goal for all individuals and thus should be a continual long-term target and integral component of interventions. Self-monitoring can successfully be incorporated in establish behavior interventions by teaching the student or students what behavior to monitor, what the goal is and the time interval associated, how the behavior will be counted, and what the consequences are for reaching the goal. The student can record data either independently or at the direction of the teacher and graph progress. The teacher and student meet regularly to review progress, negotiate appropriate consequences, modify the program as needed and celebrate success. Kaplan (1995) provides detailed, straightforward steps in implementing a self-management system. DuPaul and Stoner (2010) discuss self-management for students with ADHD. Teaching students with ADHD to self-monitor is often confounded by (a) deficits in inhibitory control and executive functioning requiring additional prompts and cues; and (b) difficulty transferring skills and generalizing across settings requiring additional instruction and support (Barry & Haraway, 2005). Thus, it is important for adults working with students with ADHD to prepare and plan for long-term support and involvement.

### TOUGH KID SERIES

Many of the strategies described in the Tough Kid Series (Rhode et al., 1996) have application implications across Tiers of the RTI model. These interventions are particularly attractive because many have built in monitoring system embedded as an integral part of the process. Target behaviors are defined, goals are set, and progress is monitored to determine goal attainment and reinforcement and for on-going determination of program success. When reviewing and selecting assessment strategies and collecting data, it is prudent to heed Kaplan's (1995) warn-

ing and consider the difference between monitoring the occurrence of specific behaviors (e.g. number of counters or points awarded in a token economy) and monitoring the resultant sum of behavior (e.g. number of tokens left after a set period when response cost is also implemented). Two specific methods for individual assessment are compliance probes and observation forms.

**Compliance Probe.** This assessment tool is designed to accompany the precision request intervention technique originally intended to be a set of 10 requests over a week time frame. With this approach, teachers are taught to follow a careful protocol when asking students to engage in common classroom tasks. The teacher is not to repeat a request and must wait a full 10 seconds before recording either a Yes or No indicating whether the student complied. After a set interval, the teacher sums the number of Yes responses and divides by total opportunities derived from adding the Yes responses to the No responses. The result is multiplied by 100 to generate percent compliant.

**Behavior Observation Form.** When it is possible to observe students for a 15 minute interval, the behavior observation form is a good choice. The form is divided up into 10 second intervals for a total of 90 in a 15 minute period. Specific off-task behaviors are coded for both the targeted student and a same aged peer. The total number of intervals that the student was on-task is divided by total opportunities generated by adding the intervals when the child was on-task to the intervals when the child was off-task. The result is multiplied by 100 to generate percent on-task. This form offers great flexibility in allowing the observer to develop their own coding system. Goal setting can easily be generated, for example, "Given math instruction, Tommy will remain on-task 85% of the time" and consistently monitored by collecting data over multiple intervals. The simultaneous observation of the same aged peer provides perspective regarding typical classroom behavior of students in the class to assist in the development of reasonable goals.

## ■ CONCLUSION

When reviewing assessment strategies here and in other sources, the reader is cautioned to review the basics of behavior assessment and change. For example, it is imperative that baseline data be collected in a manner that is consistent with subsequent data collection prior to intervention implementation. Such data provides the foundation for subsequent comparison and is necessary to accurately evaluate student progress and modify, increase, or decrease levels of support. Key components of the assessment strategies reviewed here, and in essence ALL intervention and assessment approaches, include the need to focus as much as possible on increasing positive behaviors; carefully defining the target behaviors; and setting realistic goals to ensure the student experiences success. Shaping or successive approximations of the behavior can also be implemented to gradually increase expectations once the student learns that he/she can meet success; however, students with ADHD are likely to require continual adult intervention through prompts, cues, and assistance with goal setting and self-evaluation.

In this age of increased accountability, formalized programs are appealing to busy, caring professionals dedicated to helping

students be successful academically and behaviorally. Unfortunately, there have never been, nor are there now, any quick fixes. Just as the integrity of intervention implementation is critical, so is the integrity of data collection when making valid inferences and decisions. It is the process that is most important as we seek to make a positive impact in the lives of students.

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