

# Attention Deficit Hyperactivity Disorder (ADHD)

Information and useful strategies  
to support children with ADHD

## 1. General introduction

Inattention, hyperactivity, and impulsivity are the core symptoms of Attention Deficit Hyperactivity Disorder (ADHD). A child's academic success is often dependent on his or her ability to attend to tasks and teacher and classroom expectations with minimal distraction. Such skill enables a student to acquire necessary information, complete assignments, and participate in classroom activities and discussions. When a child exhibits behaviours associated with ADHD, consequences may include difficulties with schoolwork and forming relationships with his or her peers if appropriate management approaches and interventions are not implemented.

Most research indicates that there are more boys than girls diagnosed with ADHD. Although for years it was assumed to be a childhood disorder that became visible as early as age 3 and then disappeared with the advent of adolescence, the condition is not limited to children. It is now known that while the symptoms of the disorders may change as a child ages, many children with ADHD do not grow out of it.

The behaviours associated with ADHD change as children grow older. For example, a preschool child may show gross motor overactivity—always running or climbing and frequently shifting from one activity to another. Older children may be restless and fidget in their seats or play with their chairs and desks. They frequently fail to finish school work, or they work carelessly. Adolescents with ADHD can be more withdrawn and less communicative or more openly confrontational. They are often impulsive, reacting spontaneously without regard to previous experiences.

According to the *Diagnostic Statistical Manual of Mental Disorders (DSM-IV)* ADHD can be defined by behaviours exhibited. Individuals with ADHD exhibit combinations of the following behaviours:

Fidgeting with hands or feet or squirming in their seat (adolescents with ADHD may appear restless);

Difficulty remaining seated when required to do so;

Difficulty sustaining attention and waiting for a turn in tasks, games, or group situations;

Blurting out answers to questions before the questions have been completed;

Difficulty following through on instructions and in organizing tasks;

- Shifting from one unfinished activity to another;

Failing to give close attention to details and avoiding careless mistakes;

Losing things necessary for tasks or activities;

Difficulty in listening to others without being distracted or interrupting;

Wide ranges in mood swings; and

Great difficulty in delaying gratification.

Children with ADHD show different combinations of these behaviours and typically exhibit behaviour that is classified into two main categories: poor sustained attention abilities. The settings and contexts in which challenging behaviours occur should be considered in the evaluation.

**Select appropriate teaching practices.** Determine what teaching approaches will best meet the academic and behavioural needs identified for the child. Select practices that fit the content, are age appropriate, and gain the attention of the child.

**IEP planning.** In consultation with teaching and support staff/services and parents, an IEP should be drawn up to reflect appropriate goals and targets for the individual child with ADHD as well as being planned to integrate activities provided to other children in the class.

**Because no two children with ADHD are alike, it is important to keep in mind that no single educational programme, practice, or setting will be best for all children.**

- **Successful Programmes for Children with ADHD**

Successful programmes for children with ADHD integrate the following three components:

**Teaching Approaches/Strategies**

- **Behavioural Interventions**
- **Classroom Environment.**

The remainder of this document describes how to integrate a programme using these three components and provides suggestions for practices that can help children with ADHD in a classroom setting. Again it should be emphasised that many of the techniques suggested have the additional benefit of enhancing the learning of other children in the classroom who *do not* have ADHD. In addition, while they have been used most widely with children in primary schools, the following practices are useful and can be adapted for older students as well.

### 3. Teaching Approaches/Strategies

The first major component of the most effective instruction for children with ADHD is suitable teaching approaches. Teachers can help prepare their students with ADHD to achieve by applying the principles of effective teaching when they introduce, conduct, and conclude each lesson. The discussion and techniques that follow pertain to the instructional process in general (across subject areas); strategies for specific subject areas namely literacy and numeracy appear in the subsequent subsection "Individualising Educational Programmes."

- **Introducing Lessons**

Students with **ADHD** learn best with a carefully structured academic lesson—one where the teacher explains what he or she wants children to learn in the current lesson and places these skills and knowledge in the context of previous lessons. Effective teachers preview their expectations about what students will learn and how

students and their classmates. At all times, avoid the use of sarcasm and criticism.

Use audiovisual materials. Use a variety of audiovisual materials to present academic lessons. For example, use an overhead projector to demonstrate how to solve an addition problem requiring regrouping. The students can work on the problem at their desks while you manipulate counters on the projector screen.

Check student performance. Question individual students to assess their mastery of the lesson. For example, you can ask students to demonstrate how they arrived at the answer to a problem, or you can ask individual students to state, in their own words, how the main character felt at the end of the story.

Ask probing questions. Probe for the correct answer after allowing a child sufficient time to work out the answer to a question. Count at least 15 seconds before giving the answer or calling on another student. Ask follow up questions that give the child an opportunity to demonstrate what he/she knows.

**Perform ongoing student evaluation.** Identify students who need additional assistance. Watch for signs of lack of comprehension, such as daydreaming or visual or verbal indications of frustration. Provide these children with extra explanations, or ask another student to serve as a peer tutor for the lesson.

**Help students correct their own mistakes.** Describe how students can identify and correct their own mistakes. For example, remind students that they should check their calculations in math problems and reiterate how they can check their calculations; remind students of particularly difficult spelling rules and how students can watch out for easy-to-make errors.

**Help students focus.** Remind students to keep working and to focus on their assigned task. For example, you can provide follow-up directions or assign learning partners. These practices can be directed at individual children or at the entire class.

**Follow-up directions.** Effective teachers of children with ADHD also guide them with follow-up directions:

- *Oral directions.* After giving directions to the class **as** a whole, provide additional oral directions for a child with ADHD. For example, ask the child if he or she understood the directions and repeat the directions together.
- *Written directions.* Provide follow-up directions in writing. For example, write the page number for an assignment on the board and remind the child to look at the board if he or she forgets the assignment.

**Lower noise level.** Monitor the noise level in the classroom, and provide corrective feedback, as needed. If the noise level exceeds the level appropriate for the type of lesson, remind all students—or individual students—about the behavioural rules stated at the beginning of the lesson.

**Divide work into smaller units.** Break down assignments into smaller, less complex tasks. For example, allow students to complete five math problems before presenting them with the remaining five problems.

requires extra assistance and then use additional strategies to provide structured opportunities for the child to review and master skills. The following might prove useful ideas in developing literacy and numeracy skills particularly:

### **Literacy**

## Reading Comprehension

To help children with ADHD who are poor readers improve their reading comprehension skills, the following have proved useful:

**Silent reading time.** Establish a fixed time each day for silent reading

**Follow-along reading.** Ask the child to read a story silently while listening to other students or the teacher read the story aloud to the entire class.

**Paired reading activities.** Pair the child with ADHD with another student partner who is a strong reader. The partners take turns reading out loud and listening to each other.

**Storyboards.** Ask the child to make storyboards that illustrate the sequence of main events in a story.

**Story telling.** Schedule story telling sessions where the child can retell a story that he or she has read recently.

**Role Play .** Schedule playacting sessions where the child can role-play different characters in a favourite story.

**Word bank.** Keep a word bank or dictionary of new or "hard-to-read" sight-vocabulary words.

**Board games for reading comprehension.** Play board games that provide practice with target reading-comprehension skills or sight-vocabulary words.

**Computer games for reading comprehension.** Schedule computer time for the child to have drill-and-practice with sight vocabulary words.

**Recorded books/tapes.** These materials, available from many libraries, can stimulate interest in traditional reading and can be used to reinforce and complement reading lessons.

**"Backup" materials for home use.** Make available to students a second set of books and materials that they can use at home.

**Summary materials.** Allow and encourage students to use published book summaries, synopses, and digests of major reading assignments to review (not replace) reading assignments.

## Phonics

To help children with ADHD master rules of phonics, the following are effective:

**Mnemonics for phonics.** Teach the child mnemonics that provide reminders about hard-to-learn phonics rules (e.g., "when two vowels go walking, the first does the talking")

**Dictionary of mis-spelt words.** Ask the child to keep a personal dictionary of frequently mis-spelt words.

- **Partner spelling activities.** Pair the child with another student. Ask the partners to quiz each other on the spelling of new words. Encourage both students to guess the correct spelling.

**Manipulatives.** Use cut out letters or other manipulatives to spell out hard-to-learn words.

- **Colour-coded letters.** Colour code different letters in hard-to-spell words (e.g., "receipt").

**Movement activities.** Combine movement activities with spelling lessons (e.g., jump rope while spelling words out loud).

- **Word banks.** Use 3" x 5" index cards of frequently mis-spelt words sorted alphabetically.

### Handwriting

Students with ADHD who have difficulty with manuscript or cursive writing may well benefit from their teacher's use of the following practices:

**Individual wipe boards.** Ask the child to practice copying and erasing the target words on a small, individual wipe board. Two children can be paired to practice their target words together.

**Quiet places for handwriting.** Provide the child with a special "quiet place" (e.g., a table outside the classroom) to complete his or her handwriting assignments.

**Spacing words on a page.** Teach the child to use his or her finger to measure how much space to leave between each word in a written assignment.

**Special writing paper.** Ask the child to use special paper with vertical lines to learn to space letters and words on a page.

**Structured programmes for handwriting.** Teach handwriting skills through a structured programme e.g 'Handwriting Without Tears'.

### Numeracy

Numerous individualised teaching practices can help children with ADHD improve their basic computation skills. The following are just a few:

**Patterns in maths.** Teach the student to recognize patterns when adding, subtracting, multiplying, or dividing whole numbers, (e.g., the digits of numbers which are multiples of 9 [**18, 27, 36 ... ] add up to 9**).

- **Partnering for maths activities.** Pair a child with ADHD with another student **and** provide opportunities for the partners to quiz each other about basic computation skills.

**Mastery of maths symbols.** If children do not understand the symbols used in maths, they will not be able to do the work. For instance, do they understand that

### Using additional maths equipment

Some children with ADHD benefit from using special materials to help them complete their maths work. For example:

**Number lines.** Provide number lines for the child to use when computing whole numbers.

**Manipulatives.** Use manipulatives to help students gain basic computation skills, such as counting counters, multi-link , Numicon etc .

Graph paper. Ask the child to use graph paper to help organise columns when adding, subtracting, multiplying, or dividing whole numbers.

## - Organisational and Study Skills Useful for Children with ADHD

Many students with ADHD are easily distracted and have difficulty focusing their attention on assigned tasks. However, the following practices can help children with ADHD improve their organisation of work:

- **Designate a teacher/TA as the student's learning mentor.** A member of staff - teacher or TA - will regularly review the student's progress and will act as the point of contact between home and school. Allow the pupil to meet with this mentor on a regular basis (e.g., Monday morning) to plan and organise for the week and to review progress and problems from the past week.

**Assignment notebooks.** Provide the child with a work notebook to help organise homework and other classwork.

- **Colour-coded folders.** Provide the child with colour-coded folders to help organise work for different academic subjects (e.g., reading, mathematics, science etc).
- **Work with a study buddy/homework partner.** Assign the child a partner to help record homework in planners and file work sheets and other papers in the proper folders.
- **Clean out desks and book bags.** Ask the child to periodically to sort through and clean out his or her drawer, book bag, and other special places where written pieces of work are stored.

**Visual aids as reminders of subject material.** Use banners, charts, lists, pie graphs, and diagrams situated throughout the classroom to remind students of the subject material being learned.

## - Assisting Pupils with ADHD with Time Management

Children with ADHD often have difficulty finishing work on time and can thus benefit from special materials and practices that help them to improve their time management skills, including:

- **Use a clock or wrist watch.** Teach the child how to read and use a clock or wrist watch to manage time when completing assigned work.

## 4. Behavioural interventions

The second major component of effective instruction for children with ADHD involves the use of *behavioural interventions*. Exhibiting behaviour that resembles that of younger children, children with ADHD often act immaturely and have difficulty learning how to control their impulsiveness and hyperactivity. They may have problems forming friendships with other children in the class and may have difficulty thinking through the social consequences of their actions.

The purpose of behavioural interventions is to assist students in displaying the behaviours that are most conducive to their own learning and that of classmates. Well-managed classrooms prevent many disciplinary problems and provide an environment that is most favourable for learning. When a teacher's time must be spent interacting with students whose behaviours are not focused on the lesson being presented, less time is available for assisting other students. Behavioural interventions should be viewed as an opportunity for teaching in the most effective and efficient manner, rather than as an opportunity for punishment.

### **Effective Behavioural intervention Techniques**

Effective teachers use a number of behavioural intervention techniques to help students learn how to control their behaviour. Perhaps the most important and effective of these is **verbal reinforcement** of appropriate behaviour. The most common form of verbal reinforcement is **praise** given to a student when he or she begins and completes an activity or exhibits a particular desired behaviour. Simple phrases such as "good job" encourage a child to act appropriately. Effective teachers praise children with ADHD frequently and look for a behaviour to praise before, and not after, a child gets off task. The following strategies provide some guidance regarding the use of praise:

**Define the appropriate behaviour while giving praise.** Praise should be specific for the positive behaviour displayed by the student: The comments should focus on what the student did right and should include exactly what part(s) of the student's behaviour was desirable. Rather than praising a student for not disturbing the class, for example, a teacher should praise him or her for sitting quietly and completing a maths activity.

- **Give praise immediately.** The sooner that approval is given regarding appropriate behaviour, the more likely the student will repeat it.
- **Vary the statements given as praise.** The comments used by teachers to praise appropriate behaviour should vary; when students hear the same praise statement repeated over and over, it may lose its value.
- **Be consistent and sincere with praise.** Appropriate behaviour should receive consistent praise. Consistency among teachers with respect to desired behaviour is important in order to avoid confusion on the part of students with ADHD. Similarly, students will notice when teachers give insincere praise, and this insincerity will make praise less effective.

It is important to keep in mind that the most effective teachers focus their behavioural intervention strategies on **praise** rather than on **punishment**. Negative

Effective teachers also use *behavioural prompts* with their students. These prompts help remind students about expectations for their learning and behaviour in the classroom. Three, which may be particularly helpful, are the following:

**Visual cues.** Establish simple, non-intrusive visual cues to remind the child to remain on task. For example, you can point at the child while looking him or her in the eye, or you can hold out your hand, palm down, near the child.

**Proximity control.** When talking to a child, move to where the child is standing or

sitting. Your physical proximity to the child will help the child to focus and pay attention to what you are saying.

**Hand gestures.** Use hand signals to communicate privately with a child with ADHD. For example, ask the child to raise his or her hand every time you ask a question. A closed fist can signal that the child knows the answer; an open palm can signal that he or she does not know the answer. You would call on the child to answer only when he or she makes a fist.

In some instances, children with ADHD benefit from instruction designed to help students learn how to manage their own behaviour:

**Social skills classes.** Teach children with ADHD appropriate social skills using a structured class. For example, you can ask the children to role-play and model different solutions to common social problems. It is critical to provide for the generalisation of these skills, including structured opportunities for the children to use the social skills that they learn. Offering such classes, or experiences, to the general school population can positively affect the school climate.

**Problem solving sessions.** Discuss how to resolve social conflicts. Conduct impromptu discussions with one student or with a small group of students where the conflict arises. In this setting, ask two children who are arguing about a game to discuss how to settle their differences. Encourage the children to resolve their problem by talking to each other in a supervised setting.

For many children with ADHD, *functional behavioural assessments* and *positive behavioural interventions and supports*, including behavioural contracts and management plans, tangible rewards, or token economy systems, are helpful in teaching them how to manage their own behaviour. Because students' individual needs are different, it is important for teachers, along with the family and other involved professionals, to evaluate whether these practices are appropriate for their classrooms. Examples of these techniques, along with steps to follow when using them, include the following:

**Functional Behavioural Assessment (FBA).** FBA is a systematic process for describing problem behaviour and identifying the environmental factors and surrounding events associated with problem behaviour. The team that works closely with the child exhibiting problem behaviour (1) observes the behaviour and identifies and defines its problematic characteristics, (2) identifies which actions or events precede and follow the behaviour, and (3) determines how often the behaviour occurs. The results of the FBA should be used to develop an effective and efficient intervention and support plan.

environment and help them to stay on task and learn. Certain modifications within the physical and learning environments of the classroom can benefit children with ADHD.

#### Special Classroom Seating Arrangements for ADHD Students

One of the most common adaptations that can be made to the physical environment of the classroom involves determining where a child with ADHD will sit. Three special seating assignments may be especially useful:

Seat the child near the teacher. Assign the child a seat near your desk or the front of the room. This seating assignment provides opportunities for you to monitor and reinforce the child's on-task behaviour.

**Seat the child near a student role model.** Assign the child a seat near a student role model. This seat arrangement provides opportunity for children to work cooperatively and to learn from their peers in the class.

**Provide low-distraction work areas.** As space permits, teachers should make available a quiet, distraction-free room or area for quiet study time and test taking. Students should be directed to this room or area privately and discretely in order to avoid the appearance of punishment.

### **Instructional Tools and the Physical Learning Environment**

Skilled teachers use special instructional tools to modify the classroom learning environment and accommodate the special needs of their students with ADHD. They also monitor the physical environment, keeping in mind the needs of these children. The following tools and techniques may be helpful:

- **Pointers.** Teach the child to use a pointer to help visually track written words on a page. For example, provide the child with a bookmark to help him or her follow along when students are taking turns reading aloud.  
**Egg timers.** Note for the children the time at which the lesson is starting and the time at which it will conclude. Set a timer to indicate to children how much time remains in the lesson and place the timer at the front of the classroom; the children can check the timer to see how much time remains. Interim prompts can be used as well. For instance, children can monitor their own progress during a 30-minute lesson if the timer is set for 10 minutes three times.
- **Classroom lights.** Turning the classroom lights on and off prompts children that the noise level in the room is too high and they should be quiet. This practice can also be used to signal that it is time to begin preparing for the next lesson.
- **Music.** Play music on a tape recorder or chords on a piano to prompt children that they are too noisy. In addition, playing different types of music on a tape recorder communicates to children what level of activity is appropriate for a particular lesson. For example, quiet classical music for quiet activities done independently and jazz for active group activities.
- **Proper use of furniture.** The desk and chair used by children with ADHD need to be the right size; if they are not, the child will be more inclined to squirm and fidget. A general rule of thumb is that a child should be able to put their elbows on the surface of the desk and have their chin fit comfortably in the palm of the hand.