

CHAPTER 6: ATTENTION DEFICIT HYPERACTIVITY DISORDER AND OTHER HEALTH IMPAIRMENTS

There are many health conditions that can impact a child's ability to learn and be successful in school. Typically, these are chronic conditions, meaning the condition is either always present or it regularly recurs. In some cases, the condition is an acute one rather than a chronic one. This means the condition develops quickly and is intense enough to impact strength, vitality, or alertness, but is not permanent and long lasting.

IDEA defines [Other Health Impairment](#) as:

Other health impairment means having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome; and adversely affects a child's educational performance.



ATTENTION DEFICIT HYPERACTIVITY DISORDER

Many are surprised to learn that attention deficit hyperactivity disorder (ADHD) is not a specific category of disability under IDEA, but rather fits into the category of Other Health Impairment. ADHD is not the only disorder in the category of Other Health Impairment, but it is one of the most common. ADHD is a chronic condition that is usually first identified in childhood, although the related struggles can persist into adulthood. It is a neurodevelopmental disorder resulting from differences in the way the neurological system, specifically the brain, functions. Affecting between 5 and 7% of all school children, it is the most prevalent neurodevelopmental disorder in childhood ([Boston Children's Hospital, 2023](#)). Symptoms of ADHD include inattentiveness, hyperactivity, and impulsivity.

In the past, professionals distinguished between students with attention deficit disorder (ADD) and those with attention deficit hyperactivity disorder (ADHD). However, this distinction is no longer relevant. Since 1994, physicians have combined both groups under one umbrella category of ADHD, which is then divided into three subcategories. The first subcategory is labeled ADHD predominantly inattentive presentation. This is the

subcategory that was previously identified as simply ADD. The second is ADHD predominantly hyperactive-impulsive presentation and the third is ADHD combined presentation. This third subcategory describes students for whom both the inattentive and the hyperactive-impulsive symptoms are present ([Miller, 2023](#)).

As the names of the subcategories imply, children with ADHD may have difficulty maintaining attention, be overly active and energetic, and have trouble controlling their impulsivity. The [Merriam-Webster Dictionary](#) defines impulsivity as, "Doing things or tending to do things suddenly and without careful thought." Children who are impulsive display behaviors that range from blurting out answers and interrupting others to engaging in risk-taking behavior that can lead to dangerous situations. Children may have varying combinations of these characteristics of hyperactivity, inattention, and impulsivity and the symptoms may vary in intensity.



According to the [U.S. Centers for Disease Control \(CDC\), the DSM-5 Criteria for ADHD](#) , people with ADHD show a persistent pattern

of inattention and/or hyperactivity–impulsivity that interferes with functioning or development:

Inattention:

Six or more symptoms of inattention for children up to age 16 years, or five or more for adolescents age 17 years and older and adults; symptoms of inattention have been present for at least 6 months, and they are inappropriate for developmental level:

- Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
- Often has trouble holding attention on tasks or play activities.
- Often does not seem to listen when spoken to directly.
- Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).
- Often has trouble organizing tasks and activities.
- Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
- Often loses things necessary for tasks and activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
- Is often easily distracted
- Is often forgetful in daily activities.

Hyperactivity and Impulsivity:

Six or more symptoms of hyperactivity-impulsivity for children up to age 16 years, or five or more for adolescents age 17 years and older and adults;

symptoms of hyperactivity-impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for the person's developmental level:

- Often fidgets with or taps hands or feet, or squirms in seat.
- Often leaves seat in situations when remaining seated is expected.
- Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
- Often unable to play or take part in leisure activities quietly.
- Is often "on the go" acting as if "driven by a motor".
- Often talks excessively.
- Often blurts out an answer before a question has been completed.
- Often has trouble waiting their turn.
- Often interrupts or intrudes on others (e.g., butts into conversations or games).

In addition, the following conditions must be met:

- Several inattentive or hyperactive-impulsive symptoms were present before age 12 years.
- Several symptoms are present in two or more settings, (such as at home, school or work; with friends or relatives; in other activities).
- There is clear evidence that the symptoms interfere with, or reduce the quality of, social, school, or work functioning.
- The symptoms are not better explained by another mental disorder (such as a mood disorder, anxiety disorder, dissociative disorder, or a

personality disorder). The symptoms do not happen only during the course of schizophrenia or another psychotic disorder.

Based on the types of symptoms, three kinds (presentations) of ADHD can occur:

- **Combined Presentation:** if enough symptoms of both criteria inattention and hyperactivity-impulsivity were present for the past 6 months
- **Predominantly Inattentive Presentation:** if enough symptoms of inattention, but not hyperactivity-impulsivity, were present for the past six months
- **Predominantly Hyperactive-Impulsive Presentation:** if enough symptoms of hyperactivity-impulsivity, but not inattention, were present for the past six months.

Because symptoms can change over time, the presentation may change over time as well.



It is important to note that while all children will display some of these symptoms some of the time, for the child with ADHD, these symptoms are not transitory but are persistent over time. The symptoms are present more often than they are not present, and are displayed to an extent that is “disruptive and inappropriate for the person’s developmental level” and that

causes difficulties in major life settings ([CDC, 2024](#)). It should also be noted that there is no evidence that ADHD is caused by poor parenting, food allergies, watching television, or playing video games ([CHADD, 2015](#); [NASET, 2024](#))



ADHD DIAGNOSIS

ADHD is a medical condition, which is why it falls under the IDEA category of Other Health Impairments. ADHD must be diagnosed by a medical professional such as a family doctor, a pediatrician, or a psychiatrist. While neuroimaging has demonstrated that there is a neurological basis to ADHD, this type of analysis is still used only for research and not for general diagnostic identification. Instead, to make a diagnosis, professionals must rely heavily on the information provided through interviews with the parent and the child and via rating scales completed by both teachers and parents.

A diagnosis requires evidence of significant impact of the ADHD symptoms in two or more settings. While this is typically home and school, other community settings can be considered as well. The symptoms must have been present before age 7 and have persisted for at least six months. The symptoms also must be developmentally inappropriate, which means the

behavior must be significantly different from that displayed by typically developing, same age peers ([NASET, 2024](#)).

In addition to the characteristics of inattention, impulsivity, and hyperactivity included in the DSM-V criteria above, there are a few other ADHD characteristics that teachers should be aware of. Children with ADHD often have a poor concept of time and may struggle with delayed gratification. They can have a low tolerance for frustration and difficulty with sustaining motivation and working toward long-term goals. Their academic performance can be inconsistent. They also frequently have difficulty with working memory and mental flexibility. Unfortunately, the combined characteristics of ADHD often have a negative impact on social relationships and many of these children struggle with friendships and social interactions throughout their school years ([NASET, 2024](#)).

PREVALENCE

According to a CDC survey conducted in 2016, 9.4% of U.S. children between the ages of 2 and 17 had a diagnosis of ADHD. There were more than twice as many boys with the diagnosis as girls, 12.9% of boys in this age group had an ADHD diagnosis compared to 5.6% of girls. Sixty percent of the children with an ADHD diagnosis were also diagnosed with at least one other disorder. Approximately half also had a behavior or conduct disorder, 45% had a learning disability, and 30% had anxiety. Other comorbid conditions included depression, autism spectrum disorder, and Tourette syndrome ([ADDitude, 2022](#)).

While some studies have suggested that combined type is the most common subcategory of ADHD, other studies indicate that inattentive type is the most common and combined type is the least common ([Kinman & Raypole, 2021](#)). One explanation for these disparate results is that teachers and parents may find it easier to recognize the attributes of the combined type, which makes

it more likely that these children will be identified and referred for evaluation and diagnosis. Similarly, because the image people have of ADHD is based on the characteristics of the combined type, they are less likely to recognize the other types and, therefore, might think combined type ADHD is more common than other types.



TREATMENT

There is no “cure” for ADHD, but a lot can be done to manage the condition. Treatment is usually multi-modal and consists of education about the disorder, medication, behavior therapy, and appropriate school supports. [The American Academy of Pediatrics \(AAP\)](#) recommends behavior therapy for treatment of young children with ADHD. For those age 6 and older, a combination of behavior therapy and medication is recommended. Given that ADHD is a medical condition, teachers are not in the position to recommend medication as that would be outside of their scope of practice, but they can recommend that parents seek a medical evaluation for their child. All medications to treat ADHD must be prescribed by a doctor.

As ADHD has its origin in the biochemical regulation of the brain ([Curatolo et al., 2010](#)), it makes sense that medication, especially stimulant medication,

could be helpful for those with ADHD. Commonly recognized brand names of stimulant medications used to treat ADHD include Ritalin, Adderall, and Concerta. These medications work by increasing, or stimulating, the brain's neurotransmitter action. The result is an improvement in attention, working memory, and impulse control which, in turn, leads to improvements in behavior, academic performance, and social relationships.

However, the use of stimulant medication in children must be closely monitored. While stimulant medications help many children with ADHD, they are not effective with all children with ADHD and can have the side effect of increasing symptoms of anxiety and depression for some children. Getting the dosage just right can also be tricky and can require adjustment as the child grows.

About 80% of the children with ADHD who take medication take a stimulant medication such as those listed above, while approximately 17% take an antidepressant. Research does indicate that ADHD medication is effective at lessening the symptoms of ADHD for 70-75% of the children for whom it is prescribed. Side effects of ADHD medications can include insomnia, loss of appetite, headache, stomachache, and irritability. There have been concerns that taking stimulant medication as a child will predispose one to abuse drugs later in life, but research studies with children who took Ritalin did not show any evidence to support this concern ([NASET, 2024](#)).

In the 2016 survey, the CDC found that for children 2–17 years of age with current ADHD:

- 62% were taking ADHD medication
 - Ages 2–5: 18%
 - Ages 6–11: 69%
 - Ages 12–17: 62%

- 47% received behavioral treatment
 - Ages 2–5: 60%
 - Ages 6–11: 51%
 - Ages 12–17: 42%
- Altogether, 77% were receiving treatment. Of these children:
 - About 30% were treated with medication alone.
 - About 15% received behavioral treatment alone.
 - About 32% of children with ADHD received both medication treatment and behavioral treatment.
 - About 23% of children with ADHD were receiving neither medication treatment nor behavioral treatment ([CDC, 2024](#)).

Behavioral therapy is an important part of a multi-modal approach to ADHD. Behavioral therapy, based on the principles of applied behavior analysis, can help a child learn to increase their appropriate behavior and decrease their inappropriate behavior. This method focuses on skill development while providing positive reinforcement for desired behaviors and teaching replacement behavior for undesired behaviors. While many people are tempted to use punishment to help the child with ADHD learn more appropriate behaviors, research shows that this is generally much less effective than using positive reinforcement and motivation. Obviously, there will be times when correction for inappropriate behavior will be necessary. However, these occasions should be treated in the same way as other types of error correction and be conducted calmly and with sensitivity ([NASET, 2024](#)).



EDUCATION

ADHD usually results in a school performance problem and approximately 90% of school-age children with ADHD receive some type of school support such as classroom accommodations or specialized instruction ([CDC, 2024](#)).

The child with ADHD is often an underachiever. This is not due to an intellectual deficit or an inability to learn, but rather is caused by missing important building blocks of learning throughout the years as a result of their attention struggles. Learners with ADHD in U.S. schools who require only classroom accommodations may receive those under Section 504 of the Rehabilitation Act. Those who also require specialized instruction can receive these services under the Other Health Impairments category of IDEA. If the learner has an additional, comorbid disability along with ADHD, such as a learning disability or an emotional/behavior disorder, then the student will likely receive IDEA services under that label.

Classroom strategies that can benefit the child with ADHD include maintaining a consistent daily schedule, explicitly teaching rules and expectations, and having a well-organized and orderly classroom. As mentioned above, children with ADHD respond well to positive

reinforcement. Fortunately for these children, many schools have a positive behavior support program already in place. Since disorganization is a characteristic of ADHD, children with ADHD will benefit from extra organizational support as well as training in the use of planners and self-management skills. Graphic organizers and guided notes for lectures are also very helpful to many students with ADHD.

When you are giving directions to the class, be clear and concise. Do not give directions while students are moving about or talking. If students are going to need to get out of their seats, first get the attention of the class or group of students, next give the directions, and then allow the students to leave their seats to follow the directions. Some students with ADHD have difficulty with multi-step directions, so you may have to give instructions in smaller steps to ensure that these students can successfully follow through.

Task analysis can be used to break large projects down into smaller parts. Timelines can then be created for the completion of each step. When tasks have a shorter time frame for completion, visual timers and even simple kitchen timers can be used to help the student be more aware of the time component. Making learning tasks more meaningful for the child with ADHD will also help improve performance ([NASET, 2024](#)).

Providing immediate feedback when possible is going to be beneficial for these learners. Many of these learners will struggle with motivation, so providing encouragement and positive reinforcement is very important. Additionally, some learners with ADHD will require more powerful reinforcers than are typically necessary for students without ADHD. Relying on the internal motivation of “pride in a job well-done” may not be enough. For these students, setting up a system by which the child can earn desired incentives may be what is needed to support learning and help the child develop appropriate behavior ([NASET, 2024](#)).

Direct instruction has also been shown to be beneficial for learners with ADHD. Active student engagement is an important component of direct instruction, and this benefits the student with ADHD. Learners with ADHD also demonstrate better attention skills when learning is engaging and teacher directed, as opposed to student directed activities such as completing independent seat work. Another way to keep learning engaging for these students is to incorporate new and interesting materials, activities, and experiences ([NASET, 2024](#)).

Proactively managing a student's schedule can also be helpful. Typically, the student with ADHD will have better attention and increased on-task behavior in the morning. For this reason, it can be helpful to schedule core academics, such as reading and math, during the morning and to schedule the more active, elective, or non-core subjects, such as physical education and music, in the afternoon. Typically, elementary classroom schedules are already set up in this way; however, for middle and high school students, this is not a common consideration and arranging the schedule to reflect these ideas may require more advocacy and effort on the part of teachers and parents ([NASET, 2024](#)).

Because many students with ADHD find it difficult to sit still for long periods of time, it will be helpful if regular physical movement breaks are incorporated into their day. This can involve the entire class, such as stretch breaks or teacher-directed movement breaks. It can also be a built-in component of the general classroom procedure, such as the opportunity for students to stand at their desk or move around while completing work. Some classrooms even have several standing desks available that any student may use during work time. Additionally, breaks can be incorporated as part of a regularly scheduled assigned task such as doing a classroom job. Examples of active classroom jobs include feeding the class pet, watering the plants, and bringing the attendance or the lunch count to the

office. For the child who needs a break outside of the regularly scheduled activities, teachers can use more informal opportunities for a movement break. Some examples of more informal active classroom jobs include assisting the teacher by taking a note to the office, taking a book or folder to another teacher, and distributing materials to the class ([NASET, 2024](#)).



OTHER HEALTH IMPAIRMENTS

In addition to ADHD, there are more than 200 other health conditions, many of them rare, that are grouped under the label of Other Health Impairment (OHI). These conditions may be the result of genetic factors or be due to environmental conditions and experiences. Some conditions are present at birth and others are acquired as a result of an illness or an accident. In some cases, the cause is unknown ([NASET, 2024](#)). Given the large number of health conditions included under the OHI label, it is difficult to provide more than broad generalizations about these students. To learn more, visit a site, such as the [Mayo Clinic](#), which maintains comprehensive guides to hundreds of conditions.

The child's parents are often an invaluable source of information as they generally have a great deal of experience managing the child's health challenges. When teachers are made aware that a new student with a health impairment will be joining their class, they should ask about how the condition may affect school related factors such as the child's stamina, mobility, physical strength, ability to pay attention, and attendance ([NASET, 2024](#)). Adaptations to the school environment may need to be made to make it safe and accessible for the student. For example, specialized equipment such as a wheelchair accessible desk may be needed. Procedures may also need to be established for handling medical emergencies, should they occur.

The definition of Other Health Impairment specifically mentions several health conditions in addition to ADHD. These include asthma, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome. It is important to note that the IDEA definition uses the phrase "such as" to introduce this list. This is important because it means that this is not an exhaustive list. A child with a health condition not on this list may still be eligible for services under the category of OHI if the condition negatively impacts strength, vitality and alertness and adversely affects learning ([CPIR, 2024](#)).

[Diabetes](#) is a condition in which insulin is not produced or used properly by the body. Our bodies use insulin to convert the food we eat into energy. Symptoms of diabetes include excessive thirst, frequent urination, weight

loss, fatigue, and blurry vision.



[Epilepsy](#) is a neurological condition caused by a malfunction in the electric system of the brain which results in seizures. Symptoms of epilepsy include periods of confusion, blank staring, involuntary movements, and loss of consciousness. Typically, epilepsy is diagnosed after two seizures of unknown origin.

There are many heart conditions that can adversely affect a child's health. For more information on specific heart conditions, visit the [American Heart Association](#) or the [National Heart, Lung, and Blood Institute](#).

[Hemophilia](#) is a rare blood disorder which interferes with the blood's ability to clot. As a result, people with hemophilia are at risk for prolonged bleeding after an injury. This bleed may occur internally as well as externally. Symptoms of hemophilia include abnormal bleeding, frequent nose bleeds, and excessive bruising. This is an inherited condition and typically only affects males.

[Lead poisoning](#) results from exposure to lead in a child's environment. Most commonly, this comes through encounters with lead-based paint, but it can

also be the result of exposure to contamination in the air, water, or soil. While lead levels in the body can build up over time, even small amounts of lead can have serious mental and physical consequences. Young children are particularly at risk as their brains are still developing. Symptoms of lead poisoning include developmental delays, learning difficulties, weight loss, fatigue, and seizures

Our bodies produce white blood cells which are important in helping us fight off infections. [Leukemia](#) is a blood and bone marrow cancer which results in the body producing an excessively large number of abnormal white blood cells. The most common type of Leukemia in children is Acute Lymphocytic Leukemia. Symptoms of this type of leukemia include fatigue, shortness of breath, night sweats, mild fever, excessive bleeding, achy joints, and slow healing of minor cuts and scrapes. Treatment of leukemia may require a child to be absent from school for extended periods of time.



Nephritis is an inflammation of the kidneys. Our kidneys are very important to our health as they filter excess water as well as waste products out of our blood. Nephritis may be caused by infection or, more commonly, by an

autoimmune disorder. To learn more, visit the [American Kidney Fund](#), the [American Society of Pediatric Nephrology](#) or the [National Kidney Foundation](#)

[Rheumatic fever](#) is a complication that can develop when strep throat or scarlet fever goes untreated. Symptoms include a rash, fever, painful swollen joints, heart palpitations, shortness of breath, and jerky uncontrolled body movements. Rheumatic fever, when untreated, can cause permanent damage to the valves of the heart. Antibiotics are typically used to rid the body of the strep bacteria and the child may need to continue on a low dose of the antibiotic for several years to prevent rheumatic fever from recurring.

Our red blood cells contain hemoglobin, which allows these cells to carry oxygen throughout our body. When a person has sickle cell anemia, the hemoglobin is atypical, resulting in crescent-shaped red blood cells. The shape of these cells adversely affects their ability to travel through the blood vessels causing pain as well as damage to the organs. This is an inherited disease and mainly affects people of African descent. For more information, visit the [Sickle Cell Disease Association](#) or the [American Sickle Cell Anemia Association](#)



The symptoms of [Tourette syndrome](#) include vocal outbursts and repeated sudden, involuntary movements known as tics. The tics may range from minor movements such as eye-blinking or grimacing to larger body movements such as twisting or hopping. Vocalizations can also range from simple throat clearing or grunting to the use of full words or phrases. Tourette syndrome is an inherited neurological disorder that affects four times more males than females. It is estimated that 2% of the population has Tourette syndrome. Medication can help alleviate the symptoms of Tourette syndrome.

BRAD'S STORY: SLED HOCKEY



I was born with spina bifida in March of 1990. Spina bifida is a neural tube defect that affects the spinal cord of the baby. It occurs before most women even realize that they are pregnant. Spina bifida causes

nerve damage, and as a result I am unable to walk. I use a wheelchair to get around and have since I was 2 years old.

Growing up I never had many friends. I was the only person in a wheelchair all throughout grade school. Kids played with me during recess, but I always felt like they were being forced to do so by my teachers. I often felt like I just didn't fit in with anyone my own age. It wasn't until I got to middle school that I found people like me and that was through the sport of sled hockey.

Sledge hockey, as it is known around the world, is a sport that people with physical disabilities can play, but it is not just for people who have disabilities. Sled hockey is a lot like regular hockey but with a few differences. Instead of standing and wearing skates on our feet, we sit in sleds that have two skate blades on the bottom. Since we are sitting, we need a different type of hockey stick. These are shorter than typical hockey sticks and they have a paddle on one end to control the puck. On the other end, there are ice picks which we can use to dig into the ice so we can move our sleds.

I have been playing sled hockey with our team since our very first season in 2001 and I really look forward to it every year. Sled hockey gives me something positive to look forward to in an otherwise unaccommodating winter.

Contributed photo. Image and story used with permission, 2021.

SCHOOL HEALTH SERVICES

School health services may be provided by a school nurse or by another qualified person. These services can include dispensing medications, repositioning to prevent pressure sores, specialized feeding such as tube feeding, clean intermittent catheterization, suctioning, management of a tracheostomy, and planning for the safety and care of the child at school. Services can also include training the child to meet their own hygiene and health care needs while at school ([NASET, 2024](#)).

It is not unusual for a student with a health condition to miss school. This may mean missing one day each month for a regularly scheduled medical treatment or it may mean missing school for longer periods of time due to a health crisis. Even if the student misses a large amount of school due to being homebound or hospitalized, the school is still responsible to provide specialized instruction and related services as stipulated in the IEP.

Educators need to remember that special education is a service and not a place, and provision of special education services is not limited to the school building. Children can receive special education services in a variety of settings, including in the home and in the hospital ([NASET, 2024](#)).

Students may be entitled to homebound services if they are hospitalized or must remain at home as a result of their medical condition. In this case, a homebound teacher will be sent to the home or hospital at district expense to ensure that the requirements of the IEP are being met. It should be noted, however, that homebound services do not replace special education services on an hour-for-hour basis. Typically, the homebound teacher will meet with the student for approximately 4-5 hours per week. Rather than relying on a homebound instructor from the school district, many hospitals have a program in place for providing education to students who are hospitalized for an extended period of time. Typically, hospital staff will

coordinate with school staff to provide these educational services ([Children's Health, 2024](#)).

As teachers and students have become more accustomed to online educational possibilities, the need for homebound teachers for students with health conditions has decreased. For many students, this is a positive as it allows the student to continue to learn from familiar staff and to maintain contact with peers. Another positive factor is that the number of instructional hours available to the student will typically more closely mirror the number of hours available in the school setting. This type of arrangement is also a big advantage for school staff working to support the student's transition either from school to a home-based learning environment or when transitioning from home to a school-based learning environment ([NASET, 2024](#)).



CHAPTER 6: SOURCES

ADDitude. (2022). *ADHD statistics: New ADD facts and research*. ADDitude.

<https://www.additudemag.com/statistics-of-adhd/>

American Academy of Pediatrics (AAP). (2022, February 28). *Attention*

deficit hyperactivity disorder (ADHD). [https://www.aap.org/en/patient-](https://www.aap.org/en/patient-care/attention-deficit-hyperactivity-disorder-adhd/)

[care/attention-deficit-hyperactivity-disorder-adhd/](https://www.aap.org/en/patient-care/attention-deficit-hyperactivity-disorder-adhd/)

American Diabetes Association. (2024). <https://diabetes.org/>

American Heart Association. (2024). <https://www.heart.org/>

Boston Children's Hospital. (2023). *What is attention deficit hyperactivity*

disorder (ADHD)? [https://www.childrenshospital.org/conditions/attention-](https://www.childrenshospital.org/conditions/attention-deficit-and-hyperactivity-disorder-adhd)

[deficit-and-hyperactivity-disorder-adhd](https://www.childrenshospital.org/conditions/attention-deficit-and-hyperactivity-disorder-adhd)

Center for Parent Information & Resources (CPIR). (2024, May). *Other*

health impairment. <https://www.parentcenterhub.org/ohi/>

Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD).

(2015). *Myths and misunderstandings*. CHADD.

<https://chadd.org/about-adhd/myths-and-misunderstandings/>

Children's Health. (2024). *Parent's guide for homebound services*.

[https://www.childrens.com/patient-families/resources-for-your-](https://www.childrens.com/patient-families/resources-for-your-child/school-and-education-services/school-services-parent-resources/school-guide-for-homebound-services)

[child/school-and-education-services/school-services-parent-](https://www.childrens.com/patient-families/resources-for-your-child/school-and-education-services/school-services-parent-resources/school-guide-for-homebound-services)

[resources/school-guide-for-homebound-services](https://www.childrens.com/patient-families/resources-for-your-child/school-and-education-services/school-services-parent-resources/school-guide-for-homebound-services)

Curatolo, P., D'Agati, E., & Moavero, R. (2010). The neurobiological basis of

ADHD. *Italian Journal of Pediatrics*, 36(1), 79.

<https://doi.org/10.1186/1824-7288-36-79>

Epilepsy Foundation. (2024). *What is epilepsy?*

<https://www.epilepsy.com/what-is-epilepsy>

Individuals with Disabilities Education Act. (2007, October 30). *Sec. 300.8 (c) (9)*. U.S. Department of Education.

<https://sites.ed.gov/idea/regs/b/a/300.8/c/9>

Kinman, T. & Raypole, C. (2021, November 8). *ADHD vs. ADD: What you need to know*. Healthline.

<https://www.healthline.com/health/adhd/difference-between-add-and-adhd>

Leukemia & Lymphoma Society. (2024). *Leukemia*.

<https://www.lls.org/leukemia>

Miller, K. (2023, March 7). *ADD vs. ADHD*. WebMD.

<https://www.webmd.com/add-adhd/childhood-adhd/add-vs-adhd>

National Association of Special Education Teachers (NASSET). (2024).

Attention deficit hyperactivity disorder (ADHD). NASSET.

<https://www.naset.org/professional-resources/exceptional-students-and-disability-information/attention-deficit-hyperactive-disorder-adhd>

National Bleeding Disorders Foundation. (2024). *Hemophilia A*.

<https://www.bleeding.org/bleeding-disorders-a-z/types/hemophilia-a>

National Heart, Lung, and Blood Institute. (2024).

<https://www.nhlbi.nih.gov/>

U.S. Centers for Disease Control and Prevention (CDC). (2024, May 16).

Data and statistics on ADHD. CDC.

<https://www.cdc.gov/adhd/data/index.html>

U.S. Centers for Disease Control and Prevention (CDC). (2024, May 15).

Diagnosing ADHD. CDC. <https://www.cdc.gov/adhd/diagnosis/>

Recommended citation:

VanTol, K. (2024). Attention deficit hyperactivity disorder and other health impairments. *Foundations of special education* (2nd ed.). Dordt University. <https://manifold.open.umn.edu/projects/foundations-special-education>



This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Unless noted, images from <https://www.pexels.com/>

Brad's Story and contributed photo are used with permission.