# Dyslexia

## Table of Contents

- Topic Overview
- Cause
- Symptoms
- What Increases Your Risk
- When to Call the Doctor
- Exams and Tests
- Treatment Overview
- Ongoing Concerns
- Helping Your Child
- Other Treatments
- Related Information
- References
- Credits
- Appendix
  - Conditions Related to Dyslexia
  - Educational Rights for Children With Disabilities
  - Growth and Development: Helping Your Child Build Self-Esteem

## Topic Overview

### What is dyslexia?

Dyslexia is a learning disability that makes it hard to read, write, and spell. It occurs because the brain jumbles or mixes up letters and words. Children with dyslexia often have a poor memory of spoken and written words.

Having dyslexia does not mean that your or your child's ability to learn is below average. In fact, many people with dyslexia are very bright. But not being able to read well can make many areas of learning difficult.
Dyslexia is also called specific learning disability, reading disorder, and reading disability.

**What causes dyslexia?**

Experts don't know for sure what causes dyslexia. But it often runs in families. So it may be passed from parents to children (genetic disorder). Also, some studies have found problems with how the brain links letters and words with the sounds they make.

Dyslexia is not caused by poor vision, and people with dyslexia do not see letters and words backward.

**What are the symptoms?**

Signs of dyslexia in children who are too young for school include:

- Talking later than expected.
- Being slow to learn new words.
- Problems rhyming.
- Problems following directions that have many steps.

After a child begins school, the signs of dyslexia include:

- Problems reading single words, such as a word on a flash card.
- Problems linking letters with sounds.
- Confusing small words, such as "at" and "to."
- Reversing the shapes of written letters such as "d" for "b." For example, the child may write "dat" instead of "bat."
- Writing words backward, such as "tip" for "pit."

If your child has one of these signs, it does not mean that he or she has dyslexia. Many children reverse letters before age 7. But if your child has several signs and reading problems, or if you have a family history of dyslexia, you may want to have your child checked for the problem.

**How is dyslexia diagnosed?**

A doctor or a school professional (such as a reading specialist) will ask you what signs of dyslexia you and your child's teachers have seen. He or she will ask your child questions too. Your child may be offered to take reading and skill tests. Tests may include those that look at your child's personality and how he or she learns, solves problems, and uses words. Your child may also have an IQ test.
These tests can help find out if your child has dyslexia or another learning problem.

**How is it treated?**

Treatment uses a number of teaching methods to help your child read better. These methods include:

- Teaching how letters are linked to sounds to make words.
- Having the child read aloud with a teacher's help.
- Teaching the child to listen to and repeat instructions.

United States law requires schools to set up a learning plan to meet the needs of a child with dyslexia. An example of this is an Individualized Education Program (IEP). You, your child's teachers, and other school personnel will have a say in designing the plan. The plan is updated each year based on how well your child is doing and what your child's needs are.

Medicines and counseling usually are not a part of treatment for dyslexia.

Dyslexia is a lifelong problem, but early treatment during childhood can help. Support from family, teachers, and friends is also important.

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**Cause**

The cause of dyslexia is not clear, although it is probably an inherited (genetic) disorder because it runs in families.

Some studies have shown that people with dyslexia have abnormalities in the functioning of the areas of the brain involved in reading and language.¹

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**Symptoms**

Signs of dyslexia vary depending on age. If your child has one or two of the signs, it does not mean that he or she has dyslexia, but having several of the signs listed below may mean that your child should be tested.

**Preschool**

A preschool-age child may:

- Talk later than most children.
- Have more difficulty than other children pronouncing words. For example, the child may read aloud "mawn lower" instead of "lawn mower."
- Be slow to add new vocabulary words and be unable to recall the right word.
- Have trouble learning the alphabet, numbers, days of the week, colors, shapes, how to spell, and how to write his or her name.
- Have difficulty reciting common nursery rhymes or rhyming words. For example, the child may not be able to think of words that rhyme with the word "boy," such as "joy" or "toy."
- Be slow to develop fine motor skills. For example, your child may take longer than others of the same age to learn how to hold a pencil in the writing position, use buttons and zippers, and brush his or her teeth.
- Have difficulty separating sounds in words and blending sounds to make words.

Kindergarten through grade 4

Children in kindergarten through fourth grade may:

- Have difficulty reading single words that are not surrounded by other words.
- Be slow to learn the connection between letters and sounds.
- Confuse small words such as "at" and "to," or "does" and "goes."
- Make consistent reading and spelling errors, including:
  - Letter reversals such as "d" for "b."
  - Word reversals such as "tip" for "pit."
  - Inversions such as "m" and "w" and "u" and "n."
  - Transpositions such as "felt" and "left."
  - Substitutions such as "house" and "home."

Grades 5 through 8

Children in fifth through eighth grade may:

- Read at a lower level than expected.
- Reverse letter sequence such as "soiled" for "solid," "left" for "felt."
- Be slow to recognize and learn prefixes, suffixes, root words, and other reading and spelling strategies.
- Have difficulty spelling, and he or she may spell the same word differently on the same page.
- Avoid reading aloud.
- Have trouble with word problems in math.
- Write with difficulty or have illegible handwriting. His or her pencil grip may be awkward, fistlike, or tight.
- Avoid writing.
- Have slow or poor recall of facts.

High school and college

Students in high school and college may:
- Read very slowly with many inaccuracies.
- Continue to spell incorrectly, or frequently spell the same word differently in a single piece of writing.
- Avoid tests that require reading and writing, and procrastinate on reading and writing tasks.
- Have trouble preparing summaries and outlines for classes.
- Work intensely on reading and writing tasks.
- Have poor memory skills and complete assigned work more slowly than expected.
- Have an inadequate vocabulary and be unable to store much information from reading.

**Adults**

Adults with dyslexia may:

- Hide reading problems.
- Spell poorly or rely on others to spell for them.
- Avoid writing or not be able to write at all.
- Be very competent in oral language.
- Rely on memory rather than on reading information.
- Have good "people" skills and be very good at "reading" people (intuitive).
- Have spatial thinking skills. Examples of professionals who need spatial thinking abilities include engineers, architects, designers, artists and craftspeople, mathematicians, physicists, physicians (especially orthopedists, surgeons), and dentists.
- Often work in a job that is well below their intellectual capacities.
- Have difficulty with planning and organization.
- Be entrepreneurs, although lowered reading skills may result in difficulty maintaining a successful business.

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**What Increases Your Risk**

A person is more likely to have dyslexia if his or her parent or sibling has it. Also, a person is more likely to have it if he or she had a speech or language delay as a child.

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**When to Call the Doctor**

If your child struggles with language, reading, and sounding out words, you may want to have your child checked for dyslexia. You can also speak with your child's pediatrician, teacher, or school counselor if:

- Your child's reading or other language skills aren't improving.
- Your child seems motivated but isn't learning as expected.
If you have dyslexia and are concerned that your child may have some of the signs of dyslexia, you may want to talk to your doctor or to school staff. Your child is at increased risk for having the condition.

Exams and Tests

A single test can't diagnose dyslexia. Rather, your doctor or a school professional (such as a reading specialist) will ask you what signs of dyslexia you and your child's teachers have seen. He or she will ask your child questions too.

Reading tests and other types of assessments may be done to help find out more about your child's skills. For example, tests may include those that focus on your child's learning style, language and problem-solving skills, and intelligence quotient (IQ).

It takes a team to diagnose dyslexia. School professionals or learning specialists in your area will assess academic skills and abilities. Your child's doctor can assess your child's general health and cognitive development. A complete medical, behavioral, educational, and social history may be taken to rule out other conditions (such as a brain injury) that can also interfere with the ability to read or memorize words.

It must be clear that your child doesn't have another problem that could cause him or her to struggle with reading, such as a condition that affects cognitive development.

Dyslexia is only diagnosed when:

- There is evidence of a severe reading problem.
- The problem is not due to below-average intelligence, a visual or hearing deficit or other physical conditions, or a lack of educational opportunity.

For a child to qualify for special education assistance, federal law requires that the child have tests to help check his or her language and math skills.

Treatment Overview

Treatment for dyslexia consists of using educational tools to enhance the ability to read. Medicines and counseling usually aren't used to treat dyslexia. An important part of treatment is educating yourself about the condition. The earlier dyslexia is recognized and addressed, the better. Starting treatment when a child is young can improve reading and may even prevent reading problems in the first years of school. But reading will likely not ever be easy for a person with dyslexia.

When a child age 3 years or older has been diagnosed with dyslexia, federal law requires that public school personnel create an Individualized Education Program (See Educational Rights for Children With Disabilities in appendix) (IEP) that's tailored to the child's needs. The first step in developing the IEP is talking with your child's school to create a
treatment team made up of you, the teacher, and other school personnel, including school counselors and special education teachers.

Your child's personalized IEP will detail specific disabilities, appropriate teaching methods, and goals and objectives for the academic year. It is evaluated at least once a year, with changes made based on your child's progress. Parents have the right to appeal if they don't agree with their child's IEP. Preparing children for further education, employment, and independent living is also required by law. This should start no later than age 16.

If you seek special education assistance for your child, it's handy to keep copies of:

- Your child's school records and health history.
- Test results.
- State and federal special education laws.
- Phone numbers of agencies that can help, such as Learning Disabilities Association of America.

According to a comprehensive U.S. government study on how children learn to read, a combination of educational methods is the most effective way to teach children to read. These methods include teaching phonics—making sure that the beginning reader understands how letters are linked to sounds (phonemes) to form words. Guided oral reading, in which the student reads aloud with guidance and feedback, is also important for developing reading fluency. The child must clearly understand the instructions being given, and the instructions must be repeatable or systematic in order to improve the child's reading abilities.

Depending on the severity of your child's dyslexia, you may want to have a teacher's aide or tutor available to help your child with schoolwork.

If school staff members suggest that your child be held back a grade (grade retention), talk to your doctor or another professional about your options. Grade retention may not help your child any better than other methods.

It is important to know that dyslexia is a lifelong condition. Even though early treatment during childhood can help, your child will likely always have to make an extra effort to read.

Ongoing Concerns

Each child with dyslexia has a different set of abilities and disabilities, which can range from mild to severe. A child's academic future lies in a combination of several things: the severity of dyslexia, his or her intelligence, support of family and school professionals, family resources, motivation to learn, and any associated disability, such as attention deficit hyperactivity disorder (ADHD).

Up to half of children with specific learning disabilities have other impairments that interfere with their schooling. Disabilities often associated with dyslexia (See Conditions Related to Dyslexia in appendix) include ADHD, behavioral or...
memory problems, and difficulty using problem-solving skills to achieve a goal.

Studies that have followed children with dyslexia from kindergarten through high school show that most learn to read accurately, although they usually read at a slow rate and aren't completely fluent readers. So many teens with dyslexia may need some special assistance in the classroom.

Extra time to finish classroom assignments or tests is often needed by all children with dyslexia. Children with dyslexia also may need help managing their schedules, organizing work, and completing multiple assignments and long-term projects, especially when they reach middle school. It's also helpful to let them:

- Record lectures.
- Use audiobooks to access texts and other required readings.
- Take tests aloud or as short essays rather than as multiple choice.
- Use a laptop computer with a spelling checker.
- Take tests in a separate, quiet room.

Parents can effectively support their child if they understand dyslexia and how to deal with their child's special needs. Having dyslexia can lead to poor self-esteem, depression, or behavioral problems in some children, which can hinder their reading progress. If you think your child has self-esteem problems related to dyslexia, counseling may help.

- Growth and Development: Helping Your Child Build Self-Esteem (See Growth and Development: Helping Your Child Build Self-Esteem in appendix)

**Will your child learn to read and succeed at school?**

Typically children with dyslexia are very bright, although reading will probably continue to be a challenge throughout life. The earlier dyslexia is recognized and addressed, the greater the chance that your child will learn to read at his or her highest possible level.

Encouraging and supporting your child while staying involved in his or her education are other key factors. Helping children with coping strategies as they advance in school will also help. Although extra effort and dedication are required, often children with dyslexia are able to contend with this disability and succeed in academics and other areas.

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**Helping Your Child**

Parents can make a big difference in improving the reading skills of a child diagnosed with dyslexia. Because you are most aware of your child's strengths and weaknesses, you can focus on learning strategies that will work best for him or her. With young children, playing alphabet games and reading rhyming books, for example, while offering support and encouragement, might greatly improve reading skills. Staying involved with your child's education throughout the school years will be a key part of your child's success.
You can be a positive force in your child's education. Following is a list of ways parents can help their young children with dyslexia develop reading skills and feel good about themselves.

- **Read to your child.** Find time to read to your child every day. Point to the words as you read. Draw attention to words that you run across in daily life, such as traffic signs, billboards, notices, and labels.
- **Be a good reading role model.** Show your child how important reading is to daily life. Make books, magazines, and other reading materials available for your child to explore and enjoy independently.
- **Focus on the sounds within words (phonemes).** Play rhyming games, sing songs that emphasize rhyme and alliteration, play word games, sound out letters, and point out similarities in words.
- **Work on spelling.** Point out new words, play spelling games, and encourage your child to write.
- **Help with time and planning.** Hang up simple charts, clocks, and calendars, so your child can visualize time and plan for the future.
- **Share in the joy of reading.** Find books that your child can read but that you will also enjoy. Sit together, take turns reading, and encourage discussion. Revisiting words that cause trouble for your child and rereading stories are powerful tools to reinforce learning.
- **Read, read, read.** Read to and with your child. This can help make a positive difference in learning basic reading skills.

Children who have dyslexia may need emotional support for the many challenges they face. Following is a list of ways parents can offer encouragement.

- **Learn about dyslexia.** Information about dyslexia can help you better understand and assist your child.
- **Teach through your child's areas of strength.** For example, if your child understands more when listening, let him or her learn new information by listening to an audiobook or watching a DVD. If possible, follow up with the same story in written form.
- **Respect and challenge your child's natural intelligence.** Most children with dyslexia have average or above-average intelligence that can be challenged by parents who encourage their intellectual growth. Be honest with your child about his or her disability. Explain it in understandable and age-appropriate examples and terms while offering unconditional love and support.
- **Teach your child to persevere.** You can model, through good-humored acceptance of your own mistakes, that mistakes can help you find solutions.
- **Recognize your child's limitations.** There may be some things your child will always struggle with. Help your child understand that this doesn't mean he or she is a failure.
- **Don't become a homework tyrant.** Expecting perfection and squabbling with your child over homework will create an unhealthy relationship and emphasize your child's failures.

**Other Treatments**

Vision problems can interfere with the process of reading, but vision problems don't cause dyslexia. Some people may claim that vision therapies (such as covering one eye or using colored lenses) help treat dyslexia. But there hasn't been...
strong evidence to support this claim.  

Some advertised reading programs that promise success in teaching phonics and reading for children who have dyslexia should be viewed with caution. Before you invest in these programs, request research that documents their claims, and talk to school personnel and doctors.

Related Information

- Attention Deficit Hyperactivity Disorder (ADHD)
- Growth and Development, Ages 2 to 5 Years
- Growth and Development, Ages 6 to 10 Years
- Speech and Language Development

References

Citations


Other Works Consulted

Dyslexia may occur with other learning or emotional problems. Some of the conditions associated with dyslexia may be the result of the way the child's brain was formed or how it functions. Some of the emotional problems that a child with dyslexia can have are due to frustrations and failures at school and home. But keep in mind that in order to diagnose a child with dyslexia, the evidence must show that there is no other cause for the reading disability.

- **Attention deficit hyperactivity disorder (ADHD).** Some children with dyslexia also have ADHD. But dyslexia and ADHD are two very different conditions: one does not cause the other. For more information, see the topic Attention Deficit Hyperactivity Disorder (ADHD).
**Impairments in executive functions.** Executive functions are the ability to use a set of problem-solving skills to attain goals. This includes the ability to inhibit or defer a response; make a sequential, strategic plan of action; and commit relevant information to memory for future use. These abilities are necessary for organizational skills, planning, impulse control, selective attention, inhibition, and creative thinking.

**Memory impairments.** Difficulties in the ability to listen, remember, and repeat phonemes or words that are heard are associated with dyslexia. Many times these children have problems remembering the sounds in words long enough to match them with letters for spelling. Often they cannot remember even a short list of instructions.

**Problems with mathematics.** Some children with dyslexia have problems learning mathematical concepts and vocabulary. They may also find it difficult to recognize mathematical symbols, similar to the problems they have in learning written language. Additionally, solving math problems that are presented in sentence form may be especially challenging because of difficulty with language.

**Emotional and behavior disorders.** Children with dyslexia are at increased risk for conduct and anxiety disorders, withdrawal, poor self-esteem, and depression.

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**Related Information**

- Attention Deficit Hyperactivity Disorder (ADHD)
- Dyslexia

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**Credits for Conditions Related to Dyslexia**

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**Topic Overview**

The Education for All Handicapped Children Act (EAHCA) of 1975 is a federal law. It is also known as Public Law 94–142. It requires public schools to provide appropriate educational services for all children with disabilities between ages 3 and
21. EAHCA has been strengthened and expanded over the years. It is now called the Individual with Disabilities Education Improvement Act (IDEA). Funds are granted to states with special education programs that comply with federal guidelines. These guidelines outline only the minimum standards that states must meet in order to get the funds. After meeting these guidelines, states can be flexible in designing their own programs.

Some specific provisions of IDEA are related to:

- Duration of services. Your child may be able to get services beyond the traditional school year.
- Identifying and evaluating the disability. Your child must be officially evaluated for having a disability through certain testing procedures. Health, vision, hearing, social and emotional development, intelligence, communication skills, and academic performance are checked.
- Free and appropriate education. The needs vary for each child with a disability but include education and related services. This is a comprehensive requirement that may include services such as transportation, psychological care, and physical therapy. But medical services are excluded. Some services are free. But this does not mean they are the best services available.
- Least restrictive environment. Children with special needs are put in traditional classrooms whenever possible. This is not always feasible or appropriate. But attempts should be made to limit a child's isolation.
- Individualized education program (IEP). Educational programs to fit specific needs are designed based on the child's disability. School personnel and parents meet to agree on goals and build a program to best help the child with available resources.
- Early intervention services for infants and toddlers with physical, cognitive, communication, social or emotional, or adaptive developmental disabilities. This also may include infants or toddlers at risk for these developmental problems. It depends on the state.

Details about this law can be found on the website http://idea.ed.gov.

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**Related Information**

- Alcohol Effects on a Fetus
- Attention Deficit Hyperactivity Disorder (ADHD)
- Autism Spectrum Disorder (ASD)
- Cerebral Palsy
- Down Syndrome
- Dyslexia
- Growth and Development, Ages 2 to 5 Years
- Learning Disabilities
- Spina Bifida
Introduction

Self-esteem is a person's core belief about himself or herself. A person's self-esteem is reflected in his or her actions, both in how as well as what he or she does. Although self-esteem varies from time to time, the pattern usually leans toward a healthy or unhealthy view of self. With healthy self-esteem, a person is more likely to succeed in life.

Although building self-esteem is a lifelong process, the foundation of self-esteem is established in childhood. That foundation can do much to help a child deal with difficult life issues as they are encountered.

Parents have the greatest influence on a child's belief about himself or herself. Letting your child know that he or she belongs, is doing well, and is contributing can help him or her develop healthy self-esteem.

Keep these things in mind as you raise your child.

- Children sense that they belong by the way their parents talk to them and act toward them. Show and tell your child that you love and care for him or her.
- Children learn about how well they are doing by how their parents react to their behavior. Offer praise to children when they show positive behavior, and provide them with correction when mistakes are made.
- Children learn how to work with others by learning how to cooperate within a family. Give your child some age-appropriate household responsibilities.

How you can help your child develop healthy self-esteem

Developing a sense of belonging, learning, and contributing can help your child develop healthy self-esteem. The following are ways you can help promote this development in your child.

Belonging
Through contact with others, we know that we are loved and respected and that we belong. Use the following suggestions to help your child feel he or she belongs within your family.

- **Show your love.** Let your child know you love him or her for who he or she is, not for what he or she does. Make it a habit to show your love for your child in at least two ways each day.
- **Let your child know that he or she is special.** List at least three of your child's good qualities and post them on your refrigerator. Add to these qualities from time to time. Celebrate your child's good qualities often.
- **Praise your child.** Make positive comments about your child's behavior. Notice your child's strengths, even when he or she is misbehaving. When you focus on what you like, your child's behavior may improve.
- **Listen to your child.** When your child shares something with you, give him or her your undivided attention and listen carefully. Don't give advice unless asked for it or you feel your child's safety is involved. Don't ridicule or shame your child.
- **Have family times.** Have regular times for the family to have fun together, such as playing board or card games. Try to have as many family meals together as possible. Don't discuss problems or concerns you have with your child during these times unless it is absolutely needed.
- **Encourage positive peer experiences.** Look for activities with peers where your child can feel success and acceptance, such as participating in a sport or joining a club.

**Learning**

Although learning really takes place all the time, plan to create a learning opportunity for your child at least once a week.

- **Choose a learning activity.** Choose an activity that is appropriate for your child's age and that builds on his or her strengths. Do not over-stress the danger or difficulty involved in a task or activity. You might invite your child to help with one of your chores or hobbies. If you do, be sure that you are not feeling rushed during the activity. Let it be a fun time.
- **Let your child try.** Even if your child has difficulty with a new task or skill, don't quickly take over and show him or her how to do it. Be patient and let your child try.
- **Break up a complex task.** Simple steps help a child see progress when learning a complex skill. Don't embarrass your child by asking him or her to do difficult tasks in front of other people.
- **Praise accomplishments.** Even if the completed work does not meet your standard, find at least one positive thing to say.
- **Encourage practice.** When your child is learning a new skill that takes practice, such as riding a bicycle, don't expect perfection the first time. Help your child to not give up on the first try. Encourage your child to practice and talk about his or her improvement with each practice time.

**Contributing**

Contributing enhances our feelings of belonging, providing the basis for continued learning and strengthening of self-esteem. Every day, use the following suggestions to help your child feel that he or she is contributing.
• **Set family rules.** Family rules help children know that the family stands for something and gives them exposure to order and ritual. Have as few family rules as possible and enforce them consistently. Write down your family’s rules and the consequences if those rules are broken.

• **Invite cooperation.** Regular family meetings are a way to help children learn to cooperate. Family meetings are a place where family members discuss concerns and problems.

• **Expect accountability.** You can help your child learn to be responsible by assigning him or her some household chores. Make sure the chores are appropriate for your child’s age. As your child grows, hold your child accountable for his or her choices and behavior and let your child experience natural or logical consequences.

• **Express appreciation.** Let your child know you appreciate his or her help with tasks, even household chores.

You may want to keep a journal when you are starting to use this method. Each day for at least 3 weeks, write in your journal specifically how you helped your child develop a sense of belonging, learning, and contributing. Keeping a journal for an extended period of time will help encourage positive behavior. After 3 weeks, review your notes to see your child's progress and to identify new ways to help your child.

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**Credits for Growth and Development: Helping Your Child Build Self-Esteem**

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