

Is Baby Babbling on Schedule? Milestones in Speech and Language

As a new parent, you're probably paying close attention to important **milestones** in your child's life: the first tooth, the first time your baby grasps an object, the first time he or she rolls over, sits up, crawls and walks. But do you know when your child should start speaking and developing language skills? You can make sure your child is on track by watching out for some basic communication milestones, too.

People often confuse the words "speech" and "language." They mean slightly different things. Speech is the verbal expression of language—or talking. Speech is produced by precisely coordinated muscle actions in the head, neck, chest and abdomen. Language is much broader and refers to the entire system by which we express and receive information in a way that's meaningful. Language includes speech, writing, signing or even gesturing. For example, people who have neurological disorders may depend upon eye blinks or mouth movements to communicate.

The most intensive period of speech and language development is during the first 3 years of life, when the brain is developing and maturing. By the time babies are 6 months old, they already recognize the basic sounds of their native language. Early language skills appear to develop

best in a world rich in sound, sight and consistent exposure to the speech and language of others.

In fact, increasing evidence suggests that there are critical periods for speech and language development in infants and young children. Their brains appear most able to absorb a language—any language—during the early stages of their development. Children who are not exposed to a language during these critical periods may have difficulties learning a language later.

Every child is unique and develops speech and language at his or her own rate. There is, however, a natural progression. Doctors and other health professionals know the general age and time when most children reach different milestones. They can determine when a child may need extra help in learning to speak or use language.

Early signs of communication occur during the first few days of life, when an infant learns that crying will bring food, comfort and companionship.



The newborn also begins to recognize important sounds in his or her environment, such as a parent's voice.

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Definition

Milestones

Identifiable skills that can serve as a guide for normal development.

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Wise Choices Important Speech & Language Milestones

Birth to 5 Months

- Reacts to loud sounds.
- Turns head toward a sound source.
- Watches your face when you speak.

6 to 11 Months

- Understands "no-no."
- Babbles (says "ba-ba-ba" or "ma-ma-ma").
- Tries to communicate by actions or gestures.

12 to 17 Months

- Uses several words meaningfully.
- Attends to a book or toy for about 2 minutes.
- Follows simple directions accompanied by gestures.
- Answers simple questions non-verbally.

18 to 23 Months

- Enjoys being read to.
- Points to simple body parts such as "nose."
- Says 8 to 10 words (pronunciation may still be unclear).

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As they grow, infants start to sort out the speech sounds that compose the words of their language. An infant is able to make more controlled sounds as the jaw, lips, tongue and voice mature. This begins in the first few months of life when infants start "cooing," a quiet, pleasant, repetitive vocalization.

By 6 months of age, an infant usually babbles or produces repetitive syllables such as "ba-ba-ba" or "da-da-da." Babbling soon turns into a type of nonsense speech that often has the tone and rhythm of human speech but does not contain real words. By the end of their first year, most children are able to say a few simple words. Children quickly learn

the power of those words as others respond to them.

By 18 months of age, most children can say 8 to 10 words. By age 2, most are putting words together into short phrases or sentences, such as "more milk." Children continue to learn that words symbolize or represent objects, actions and thoughts. They also engage in representational or pretend play. Between ages 3 and 5, a child's vocabulary increases, and he or she begins to master the rules of language, or grammar.

You should talk to your child's physician if you have any concerns about your child's speech or language development. The doctor may decide to refer you to a **speech-lan-**



Web Site

- www.nidcd.nih.gov/health/voice/speechandlanguage.asp#mychild

guage pathologist, who will talk to you about your child's communication and general development. The speech-language pathologist will also evaluate your child with special speech and language tests. A hearing test is often included in the evaluation because a hearing problem can affect the development of a child's speech and language.

Depending on the test results, the speech-language pathologist may suggest activities that you can do at home to stimulate your child's speech and language development. These activities may include reading to your child regularly; speaking in short sentences using simple words so your child can successfully imitate you; or repeating what your child says using correct grammar or pronunciation.

The speech-language pathologist may also recommend group or individual therapy or suggest further evaluation by other health professionals such as an **audiologist** or a developmental psychologist.

It's important to discuss speech and language development, as well as other developmental issues, with your child's doctor at every visit. Knowing what's normal and what's not can help you figure out if your child is right on schedule or if you should be concerned. ■

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Definitions

Speech-Language Pathologist

A health professional trained to evaluate and treat people who have speech and language disorders.

Audiologist

A health care professional who is trained to identify and measure hearing loss.

Spotting Autism Spectrum Disorders

Early Detection Important for Outcome

Autism spectrum disorders (ASD) begin in early childhood and last through a lifetime. Most experts agree that early intervention can improve a child's quality of life for years to come. A recent study found that it's possible to detect signs of autism in some children as young as 14 months old, the earliest the disorder has ever been identified.

ASD includes several related brain disorders, with symptoms spanning the spectrum from mild to severe. People with ASD generally have trouble with social interactions and communication. They may also have repetitive behaviors. For example, a child might spend hours lining up toy cars. Some children may be unusually sensitive to certain sounds or touch.

ASD is generally diagnosed by age 3, but researchers supported by NIH recently studied whether earlier diagnoses could be made. The scientists focused on children considered to be at high risk for ASD because they had a sibling with the disorder. At 14 months of age, about half of the children who went on to develop ASD had dramatically lower social and communication abilities. The other half showed no signs at 14 months; however, by the time they were 2 years old, their social and communication skills had dropped sharply.

The study revealed two distinct patterns of how ASD symptoms appear during early childhood. In some children, ASD can be distinguished at just over 1 year of age. Other children don't show definite signs until they're closer to 2 years old. More research will be needed to see if these patterns also hold true for the general population.

While some scientists are trying to better understand and diagnose ASD, others aim to get to the root causes. The Autism Genome Project Consortium, supported in part by NIH, is searching for specific genetic variations that contribute to ASD. As more genes involved with ASD are identified, studies of how they work in the brain will help to sort out the genetic and environmental influences on ASD. These studies will hopefully

lead to more effective treatments.

In the meantime, the possibility of earlier diagnosis is encouraging. Behavioral therapies, specialized teaching and certain medications can all help people with ASD. If you suspect your child is showing signs of ASD, contact your doctor as soon as possible. ■



Web Sites

- www.nimh.nih.gov/healthinformation/autismmenu.cfm
- www.ninds.nih.gov/disorders/autism/autism.htm
- www.nichd.nih.gov/publications/pubs/upload/autism_overview_2005.pdf



Wise Choices Signs of Autism Spectrum Disorders

Children with a family history of autism have a somewhat higher risk for developing ASD than children with no family history. There may be cause for concern if a child:

- Does not babble, point or make meaningful gestures by 1 year of age.
- Does not speak one word by 16 months.
- Does not combine two words by 2 years.
- Does not respond to name.
- Appears to be unaware when people are addressing him/her but responds to other sounds.
- Avoids eye contact.
- Does not smile.
- Wants to be alone.
- Does not seem to know how to play with toys.
- Excessively lines up toys or other objects.
- Does not point at objects to show interest.
- Does not look at objects when another person points at them.
- Has unusual reactions to the way things smell, taste, look, feel or sound.

Health Capsules

Can You Listen to Two Things at Once?

Can you listen to a phone message in one ear while a friend talks into the other? If you can, it may be thanks to your **genes**, scientists report.

Your brain analyzes the sounds you hear so you can make sense of them. This "auditory processing" helps you decide whether a sound is a voice you should listen to or background noise you can safely ignore. Abnormal auditory processing affects up to 7% of school-age children in the U.S. The disorders also affect older adults and stroke victims.

To see if auditory-processing skills can be inherited, NIH researchers studied nearly 200 pairs of twins, ages 12-50. The pairs included both identical twins, who share all of their genes, and fraternal twins, who share

about half of their genes. If auditory processing is purely genetic, identical twins will be alike nearly 100% of the time, but fraternal twins won't.

The twins took several tests that assess auditory-processing skills. For example, they were asked to name 2 different short words or word fragments that were played at the same time, one to the right ear and one to the left.

The results showed that this dual-listening ability is largely inherited. Up to 73% of the variation in this type of listening was due to differences in genes, the researchers say.

These findings will help researchers better understand how the brain processes sound. They may also help to uncover new clues to the causes of auditory-processing disorders. ■



Definition

Genes

Stretches of DNA, a substance you inherit from your parents.



Web Site

- www.nidcd.nih.gov/health/voice/auditory.htm



Featured Web Site Cancer Risk: Understanding the Puzzle

<http://understandingrisk.cancer.gov>

Do you know the factors that affect your cancer risk? This interactive site will help you analyze what you see or hear in the news and make informed decisions about lowering your cancer risk. Use online tools to explore your risk for different types of cancer.

From NIH's National Cancer Institute.



Mourning the Death of a Spouse

After a spouse dies, you may feel your entire world has changed. When you are in mourning, you may feel shock, sorrow, anger, fear and even guilt. You may have trouble doing everyday activities like sleeping and eating. These feelings are normal. There is no right or wrong way to mourn.

To help older people cope with grief, NIH's National Institute on Aging has issued a new publication called *Mourning the Death of a Spouse*. This easy-to-read brochure provides a list of resources and offers useful and practical information, including the symptoms of grieving,

tips for taking charge of your life and a summary of important legal and business matters. For free copies, call

1-800-222-2225 toll-free or visit www.nia.nih.gov/HealthInformation/Publications/spouse.htm. ■



Wise Choices Coping with Grief After a Spouse Dies

- Take care of yourself. Eat right, exercise and get enough sleep.
- Don't think you have to handle your grief alone. Talk to friends and family, join a grief support group or consider short-term talk therapy.
- Try not to make any major changes—like moving or changing jobs—right away.
- See your doctor if you're having trouble taking care of everyday activities.
- Remember that mourning takes time. It's common to have rollercoaster emotions for a while.



For more health information from NIH, visit

<http://health.nih.gov>