HEALTH BASICS

Normal growth and development

Normal growth and development describes expected physical growth and skill-building from infancy through adolescence.

WHAT IT IS
Expected physical growth and skill development through childhood and adolescence

WHERE IT COMES UP
Checkups, growth charts, milestone reviews, school, and puberty

WHY IT MATTERS
Helps identify children who may need closer assessment

WHAT IT IS NOT
Not a disease or a diagnosis

WHO TO ASK
Pediatrician, family clinician, health visitor, or school health service

HOW IT IS CHECKED
Serial measurements, observation, milestone review, and screening questionnaires

Overview

Normal growth and development describes how children's bodies, abilities, and behavior usually change from infancy through adolescence. It is not a disease or a diagnosis.

Growth means physical change, such as gaining weight, becoming taller, and increasing head size during infancy. Development means gaining skills and independence. This includes movement, language, learning, social interaction, emotions, and everyday activities.

There is a wide range of normal. Children do not all grow at the same speed or reach each skill on the same day. Family traits, nutrition, health, pregnancy history, early birth, and the timing of puberty can affect the pattern.

Clinicians therefore look at the whole child and at changes over time. A single height, weight, percentile, or milestone rarely gives a complete answer.

How it works

Growth is usually followed with repeated measurements. These may include weight, standing

height or lying-down length, body mass index, and head circumference during early childhood.

Measurements are plotted on a growth chart for the child's age and sex. A percentile compares one measurement with measurements from other children. For example, it shows where a child falls within the chart's reference population. It is not a test score or a target.

The pattern matters more than one percentile. Many healthy children are naturally smaller or larger than average. Clinicians look for steady growth that fits the child's previous pattern, family background, health, and stage of puberty.

Development is often considered in several connected areas:

A developmental milestone is a skill that most children can do by a certain age. Milestones are useful checkpoints, not strict deadlines. Skills may develop unevenly; a child can be ahead in one area and take longer in another.

Developmental surveillance happens during routine care. It includes listening to caregivers, reviewing the child's history, observing the child, and discussing learning and behavior. A developmental screening questionnaire is a more structured check. Screening can show that further assessment may be useful, but it does not make a diagnosis by itself.

Puberty is another part of normal development. Hormonal changes lead to a growth spurt, body hair, breast or genital development, menstruation, voice changes, and other physical and emotional changes. The starting age and pace differ among healthy young people.

- Gross motor skills: larger movements such as sitting, walking, or jumping
- Fine motor skills: hand and finger control, including grasping or drawing
- Language and communication: understanding, gestures, speech, and conversation
- Thinking and learning: attention, memory, play, and problem-solving
- Social and emotional development: relationships, shared attention, feelings, and behavior
- Daily living skills: eating, dressing, washing, and increasing independence

Why it matters for your health

Tracking growth can show whether a child is receiving enough nutrition and whether the body is growing in a consistent pattern. An unexpected change may lead a clinician to review eating, digestion, sleep, medicines, long-term health conditions, hormones, or family growth patterns.

Reviewing development helps identify children who may benefit from hearing or vision testing, therapy, learning support, or a more detailed assessment. Early support can help a child communicate, participate in daily activities, and learn, even when the reason for a difference is

not yet clear.

Growth and development also affect each other. Hearing difficulty can affect language development. A movement difficulty can change how a child explores and plays. Long-term illness or poor nutrition can affect both physical growth and skill-building.

Charts and milestone lists should not be used in isolation. Culture, languages spoken at home, opportunities to practise a skill, disability, and premature birth can influence how development appears. For a child born early, clinicians may use an age adjusted for the degree of prematurity when considering early milestones.

What can go wrong

A growth or developmental concern does not always mean that a child has a medical condition. Measurement error, a brief illness, a normal shift toward the family's usual growth pattern, or differences in the timing of puberty can all affect what is recorded.

Conditions and situations related to unusual growth patterns include growth faltering , sometimes called poor weight gain; short or tall stature; nutritional deficiency; feeding difficulty; digestive disorders; chronic heart, lung, kidney, or inflammatory disease; hormone disorders; and genetic conditions. Head growth that changes unexpectedly may also need assessment.

A developmental delay means that skills in one or more areas are developing later than expected. Possible related conditions include hearing or vision loss, movement disorders, intellectual disability, autism, language disorders, genetic conditions, and effects from illness or injury. Sometimes no single cause is found.

Developmental regression means losing a skill that was previously established, such as words, walking ability, or social engagement. This is different from temporarily using a skill less often during stress or illness. Confirmed loss of skills deserves prompt medical assessment.

Puberty can begin earlier or later than expected, or may not progress in the usual sequence. Family patterns are common, but hormone, genetic, nutritional, or long-term health conditions can also affect timing.

No percentile, checklist, school report, or online milestone tool can identify the cause by itself. Assessment may include a history, physical examination, repeat measurements, hearing or vision checks, laboratory tests, or referral to a child development service.

What you can do

Attend routine health visits so measurements can be compared over time. Bring any records from previous clinics, especially after moving or changing healthcare services.

You can also:

Home height and weight measurements can be inaccurate. Avoid measuring too often or focusing on small short-term changes. If a result seems unusual, a trained professional can repeat it with suitable equipment.

Arrange a routine appointment if you are concerned about steady growth, communication, movement, learning, behavior, feeding, or puberty. You do not need to wait for a scheduled checkup if a concern continues.

Seek prompt medical advice if a child appears to have lost an established skill, has stopped gaining weight, has increasing difficulty eating or drinking, or develops new weakness or problems with balance.

A growth concern alone is rarely an emergency. Seek emergency care for unresponsiveness, serious breathing difficulty, a seizure, sudden severe weakness, or signs of severe dehydration, such as marked drowsiness with very little urine.

- Keep a brief record of concerns, including when you first noticed them
- Note skills gained, lost, or used only in certain settings
- Bring school, nursery, therapy, hearing, or vision reports when relevant
- Ask which growth chart is being used and what the overall pattern shows
- Ask whether a formal developmental screening questionnaire is appropriate
- Mention feeding problems, restrictive eating, persistent digestive concerns, or puberty changes
- Tell the clinician if the child was born early or has a long-term condition

Common questions

Does a low or high percentile mean something is wrong?

Not by itself. Healthy children can be at many different percentiles. The trend over time, accurate measurement, family pattern, health, and puberty stage provide more useful context.

Should a child stay on exactly the same percentile?

Not necessarily. Some movement can occur, especially in infancy or around puberty. A large or continuing change is a reason to check the measurements and review the child's health and nutrition.

Is missing one milestone a developmental delay?

Not always. Milestone ages are checkpoints rather than exact deadlines. Discuss the concern if a skill is not appearing, if several areas are affected, or if you notice loss of a skill.

Can children develop skills in a different order?

Yes. There is normal variation, particularly for individual movement or language skills. However, unusual patterns may still deserve review, especially when they affect daily activities or occur with other concerns.

Does speaking more than one language cause language delay?

Learning more than one language does not cause a language disorder. A multilingual child's words may be divided across languages. Concerns should consider communication in all languages the child uses.

Can a screening result diagnose a condition?

No. Screening identifies children who may benefit from further assessment. Diagnosis, when relevant, requires a fuller evaluation.

Sources

- World Health Organization - WHO Child Growth Standards: Methods and Development
- US Centers for Disease Control and Prevention - Growth Charts: Clinical Growth Charts
- US Centers for Disease Control and Prevention - Developmental Milestones
- American Academy of Pediatrics - Promoting Optimal Development: Identifying Infants and Young Children With Developmental Disorders Through Developmental Surveillance and Screening , Pediatrics, 2020
- National Institute for Health and Care Excellence - Faltering Growth: Recognition and Management of Faltering Growth in Children , guideline NG75
- American Academy of Pediatrics - Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents , fourth edition