

Age 12-20 years (Adolescence)

There are rapid changes in body structure, physiology, psychological and social functioning. Hormones become important determinants of the child's development. The child thinks logically and solves problems by hypothesis and deduction. Gender and culture affect the developmental course as do physical and other environmental stresses.

Forms of Behaviour during the 1st year (Milestones)

	Newborn (0-4 weeks)	At 4 weeks	At 8 weeks	At 12 weeks
Prone (Head and body facing the floor)	Lies in folded (flexed) attitude, turns head from side-to-side but the head sags behind when lifted.	Legs more extended, head lifted momentarily to 'plane-of-body', when body and head are suspended and facing the floor.	Can hold head erect for a few moments when body and head are suspended and facing the floor.	Lifts head and chest, arms extended, head above the plane-of-body when body and head are suspended and facing the floor.
Supine (Head and body facing the roof)	Generally body and legs folded (flexed) and a little stiff.	Head lags on pulling to sitting position.	Head lags to pull in the sitting position.	Reaches towards and misses objects. Waves at toys.
Visual	a) May fixate face or light in the line of vision.	Watches person and follows the moving object partly.	Follows the moving object to 180 degrees.	Follows the moving object beyond 180 degrees.
Reflex	Startles (in response to sound etc.) active, stepping, placing and grasp reflexes active.			Newborn reflexes disappear.
Social	Visual preference for human face.	Body movements with other's voices, begins to smile.	Social smile, listens to voice and coos.	Sustained social contact; listens to music; says "aah, ngah".

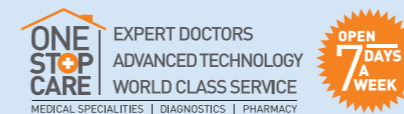
Forms of Behaviour during the 1st year (Milestones Cont'd)

	At 16 weeks	At 28 weeks	At 40 weeks	At 1 year
Prone (Head and body facing the floor)	Can hold head steady when carried. Lifts head and chest in vertical axis, and legs extended.	Rolls over, pivots and creeps.	Keeps back straight.	
Supine (Head and body facing the roof)	Symmetric posture, reaches and grasps objects and mouths them.	Lifts head, rolls over, squirming movements.	Sits up indefinitely without support.	
Sitting	No head lag on sitting, enjoys sitting with truncal support.	Sits briefly with pelvic support, leans forward on hands and back rounded.	Sits without support.	
Standing	Pushes with feet when held erect.	May support most weight, bounces actively.	Pulls to standing position and cruises around furniture.	Stands without support.
Adaptive	Sees pellet, but makes no move.	Reaches out for and grasps large objects. Transfers objects from hand-to-hand. Grasps with palms.	Creeps and crawls. Grasps small objects between one finger and thumb (pincer grasp, pellets), uncovers hidden toys, releases object grasped by others.	Walks with one hand held, rises independently, and takes several steps. Unassisted pincer grasp, releases objects on gesture or request.
Language	Laughs out loud, strange anxiety, excited at the sight of food.	Polysyllabic vowel sounds.	Repetitive consonants 'Mama, Dada'.	A few words besides 'Mama, Dada'.
Social		Prefers mother, babbles, enjoys mirror.	Responds to the sound of name, bye-bye etc.	Plays a simple ball game, makes postural adjustment to dressing.

Patterns from 1-5 years

	15 months	18 months	24 months	30 months
Motor	Walks alone, crawls up stairs.	Runs stiffly; sits on chair, walks up stairs with one hand held.	Runs well; walks up and down the stairs, jumps and climbs furniture.	Goes upstairs alternating feet.
Adaptive	Makes tower of 3 cubes; a line with crayon; inserts pellets in bottle.	Makes tower of 4 cubes; imitates scribbling, vertical stroke; pumps pellet in bottle.	Makes tower of 7 cubes, circle, imitates horizontal stroke, folds paper imitatively.	Makes tower of 9 cubes. Makes vertical and horizontal strokes.
Language	Jargon; follows simple commands, may name a familiar object (ball).	10 words; names pictures, identifies 1 or more parts of body.	Put 3 words together (subject, verb, object).	Refers to self by "I" and knows full name.
Social	Indicates desires or needs by pointing; hugs parents.	Feeds self; may complain when wet or soiled; kisses parents.	Handles spoon well, helps undress; listens to stories with pictures.	Helps out things away. Pretends in play.

Talk to the specialists at HCL Healthcare today!



Our Specialities: Internal Medicine, Obstetrics and Gynaecology, Paediatrics, Dentistry, Dermatology, Pulmonology and Sleep Medicine, ENT, Endocrinology and Diabetology, Orthopaedics, General Physician, Cardiology

Our Services: Physiotherapy, Health Check-ups, Ultrasound, X-Ray, Dietetics and Nutrition, Lab, Vaccination, Pharmacy

CENTRES: DWARKA | GURGAON 54 | NOIDA | NIRMAN VIHAR | PITAMPURA

All medical staff in HCL World Class Family Health Centres are employed by HCL Healthcare

GROWTH AND DEVELOPMENT OF A CHILD - VARIOUS STAGES AND PATTERNS

Read on to find out.



1800 103 7070
FOR APPOINTMENT

Why is it important to understand the process of growth and development in a child?

Although the general pattern of growth in human beings is predictable, every child's development needs to be understood so as to detect deviance or delays early on. This can assist parents to understand their observations as well as dismantle explicit or implicit wrong beliefs.

Age 0-3 months (see chart for milestones)

- In this phase, mothers must establish a predictable feeding and sleep cycle of infants
- Babies lose about 10% of their birth weight in the first 4-5 days due to poor intake of mother's milk. As the infants learn to suck better, they quickly regain their birth weight. They also begin to gain about 1% of their birth weight daily (i.e. 30 grams in a 3 kg baby) during the first 3 months



- Brain growth is fastest during this period
- Movements are largely uncontrolled, with the exception of eye gaze, head turning and sucking. Social smile develops at about 4-6 weeks of age
- Usually for the first 2-3 months infants sleep less at night and more during daytime. Later as learning plays a role, infants start to sleep more at night. They start waking briefly with longer periods of sleep
- Foundation is laid for cognitive skills and responses like visual, hear, touch and taste in the next few weeks. They can differentiate between similar patterns, colours, facial expressions (smiles) on different faces and consonants
- The mother's consistent response to the child's needs and distress signals at this age has later resulted in a

less aggressive behaviour in the child. Infants who are fed according to the convenience of parents or do not get proper feeding either on demand or schedule are likely to show increased irritability, poor weight gain, regurgitation, diarrhoea as well as behavioural problems during later stages of development.

- Certain reflexes persist like startle reflex to sounds etc.

Age 3-6 months (see chart for milestones)

- To see your child interact/respond and get interested during this period makes it a delightful experience. Most parents are happy with the coos and conversations that they report
- Rate of physical growth slows down (approximately 20 grams/day between 3-4 months)
- This period signifies an emergence of voluntary movements and increasing parent-child relationship. The infants start holding objects and voluntarily let them go. Rolling over begins, and infants improve head control, allowing them to gaze at objects
- Total sleep requirement is 14-16 hours a day with 8-10 hours of sleep at night
- Overall a qualitative change is seen in the infants. They become more interested in the surroundings. They start getting distracted and may turn around from the mother's lap/breast while feeding, preferring to face outwards



- Infants start exploring their own bodies, vocalize and touch various parts of their own body
- Distinct facial expressions reflecting emotions like anger, joy, fear, disgust and surprise start appearing

Age 6-12 months (see chart for milestones)

- This stage shows increased mobility and exploration of objects and is marked by the infant's drive for autonomy. Poor weight gain at this age often reflects the struggle between parent and infant over the latter's feeding habits. Advancements in understanding and communicative abilities besides developing will and intention are the hallmarks of this stage
- Growth slows down further (see charts for weight, head circumference, length/height). The abilities to sit without support (7-8 months), turn around while sitting (9 months), use pincer grasp (one finger and a thumb) to pick up objects (9-10 months) help the infant to manipulate and explore several objects differently. Tooth eruption, reflecting bony maturation begins at about 6 months and may require additional supplementation
- The development of crawling, creeping, cruising around creates more opportunities as well as dangers for a child
- Secure infants with pleasant environment tackle the challenges with pleasure, energy and certain degree of experimentation; whereas insecure infants show less competence and experimentation
- Object constancy (continued existence of an object), a major milestone development at about 9 months of age makes the infant persistently search for an object even if it is hidden
- Infant develops wariness for strangers and may cling or cry anxiously
- The drive for autonomy emerges and the infant may prefer to feed by himself/herself. Tantrums may appear as a reflection of conflict with parental control
- At 7 months the infant expresses a range of emotions through non-verbal communication. The infant may respond to vocal tones and facial expressions
- At 8-10 months, babbling with multiple syllables (ba-da-ma) appears
- At this age, picture books are ideal for developing language
- With lively and interactive parents, the child engages and re-engages frequently. With depressed parents, infants re-engage less and spend less time in co-ordinated movements

Age 1-2 years

Growth rate further slows down but the symbolic thought process is initiated which causes a reorganisation in behaviour with multi-faceted development implications.



Age 2-5 years (Pre-school years)

Increasingly, sophisticated language development, child's growing sense of autonomy and its related conflicts due to limitations are the hallmarks of this stage. Somatic and brain growth slows down as symbolic functions become increasingly important.

Age 6-12 years (Early school years)

The cognitive power to consider multiple variables simultaneously gives school age children the ability to evaluate themselves and perceive other's evaluation of them. Healthy development requires increasing independence from parents and enhanced interaction with peers to face the worldly challenges themselves.

