

Infant stage

Growth and Development of Infant stage

It is the period which starts at the end of the first month up to the end of the first year of age. During this year, the infant grows and develops skills more rapidly.

The normal growth and development of infant

Physical growth

-Weight: Infant will double birth weight by the age of 6 months, and will triple his/her birth weight by the age 1 year old.

The infant gains:

- ☐ Birth to 4 months → $\frac{3}{4}$ kg /month
- ☐ 5 to 8 months → $\frac{1}{2}$ kg / month
- ☐ 9 to 12 months → $\frac{1}{4}$ kg /month

Calculating infant's weight

$$\text{Weight} = \frac{\text{Age in months} + 9}{2}$$

Length: infant will increase about 2.5 cm per month during the first 6 months and 1 $\frac{1}{2}$ cm per month at 7 – 12 months. This increase occurs mainly in the trunk, rather than in the legs.

Head size:

-At birth, an infant's head circumference averages about (33-35 cm) and is usually slightly larger than the chest circumference.

-During the first 6 months head circumference increases approximately 1.5 cm per month and increase 0.5 cm monthly during the second 6 months.

-The average size is 43 cm at 6 months and 46 cm at 12 months.

-Posterior fontanel closes by 6-8 w of age.

-Anterior fontanel closes by 12-18 months of age

Chest circumference

The chest also grows rapidly, and equals the head circumference by the end of the first year.

Physiological growth of infants-:

Pulse 110-150 b/min

Resp 35 ± 10 c/min

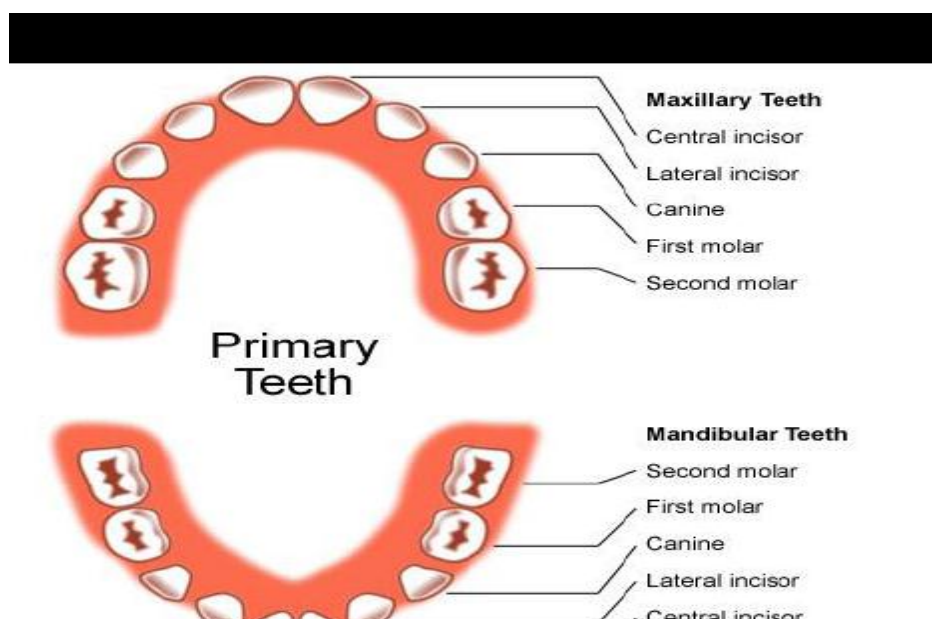
Blood pressure $80/50 \pm 20/10$ mmHg

Dentition:

Eruption of teeth starts by 6–8 months of age. It is called "Milky teeth" or "Deciduous teeth" or "Temporary teeth".

Average age for teeth eruption:

Lower central incisors Erupt at 6 months
Upper central incisors Erupt at 8 months
Upper lateral incisors Erupt at 9 months
Lower lateral incisors Erupt at 11 months
Lower first molars Erupt at 12 months
Upper first molars Erupt at 14 months
Lower cuspids Erupt at 16 months
Upper cuspids Erupt at 18 months
Lower 2nd molars Erupt at 20 months
Upper 2nd molars Erupt at 24 months.



Locomotion (motor growth) (gross and fine)

At 2 months

Gross: Hold head erects in mid-position position

Turn from side back

Fine: Hold a rattle le briefly when placed in his hand

At 4 months:

Gross: Sit with adequate support.

Roll over from front to back.

Good head control

Fine: Objects will be involuntarily grasped and dropped without notice.

Plays with fingers, carry object to mouth.

At 6 months:

Gross: Lift chest and upper abdomen when prone.

Fine: Hold own bottle. Transfer object from one hand to other

At 8 months:

Gross: Site alone.

Pull him self to standing position with assistance.

Fine: Drink from cup with assistance.

Eat finger food that can be held in one hand.

At 9 months:

Gross: Raises to a sitting position alone

Crawl.

Fine: hold bottle with good hand mouth coordination

At 10 months:

Gross: Creep well (use hands and legs).

Fine: Can grasp small objects using thumb and forefinger.

At 11 months:

Gross: Walk holding on furniture.

Stand erect with minimal support

Fine: Take toys and put it inside cup or box

At 12 months:

Gross : Stand alone for variable length of time.

Site down from standing position alone.

Walk in few steps with help or alone

Fine: Pick up small bits of food and transfers them to his mouth

Emotional development

Infant emotions are unstable, where it is rapidly changes from crying to laugh. Express felling through crying and laugh

By 10 months: can express recognizable emotions, such as anger, sadness, pleasure, jealousy and affection .

Social development

He learns that crying brings attention.

The infant smiles in response to smile of others.

The infant shows fear of stranger (stranger anxiety).

He responds socially to his name.

Psychosocial development (Erikson)

Developing a Sense (Trust vs. mistrust) from birth to 1 years.

-The infant develops sense of trust through interaction with caregiver (mainly the mother), learns to trust others through the relief of basic needs as feeding, comfort, stimulation.

-Infant whose needs are consistently unmet will develop a sense of mistrust. Failure to learn "delayed gratification" leads to mistrust. Mistrust can result either from too much or too little frustration.

Cognitive development (Piaget)

Sensorimotor stage from birth to 2 years,

- Coordinates sensory experiences with physical action,
- Follows an objects with eyes, recognizes familiar faces, turn head to locate sound, can fixate on small objects. Adjust posture to see.
- Infants learn to separate themselves from other objects in the environment.
- Respond to name.
- They learn that parts of the body are useful; for example, the hands bring objects to the mouth and the legs help them move to different locations.
- Searches for hidden toy.

Language Development (Speech Milestones)

1-2 months: make sounds such as ah, eh, and uh .

2-6 months: laughs

8 months: babbles sounds as ma ma, da da.

9 to 10 months

They comprehend the meaning of the word "no" and obey

Simple commands

1 year: they can say three to five words with meaning

Psychosexual development (Freud)

According to Freud oral stage start from birth to 18 months

During this stage, the mouth is the pleasure center for development.

Freud believed this is why infants are born with a sucking reflex and desire their mother's breast. If a child's oral needs are not met during infancy, he or she may develop negative habits such as nail biting or thumb sucking to meet this basic need.

Infant needs

1. Love and security
2. Feeding
3. Warmth and comfortable
4. Pleasure of sucking
5. Sensory stimulation

Daily care of infant

- **Cleaning baby's face and head**
- **Eye**

With clean hands, moisten a cotton ball with warm water and gently clean infant's eyelids, wiping from inner eye to outer eye. Use a different piece of cotton for each eye.

- **Ears**

Use a cotton ball to wipe behind and around the outside of baby's ears.

- **Hair**

Washing baby's hair and dry it by the towel back and forward across the scalp.

- **Oral and teeth care**

Clean baby's gums and tongue using water and a washcloth after morning and evening feeds. Wipe front and back of teeth using water and a clean washcloth. At 12 months use a soft infant toothbrush to brush teeth with water at least twice a day.

- **Nail care**

Use special baby nail scissors; Work with someone else if it helps one holds the infant as the other trims the nails. Try trimming baby's nails when he's asleep, in the highchair or while singing a favorite song.

- **Bathing**

The purpose of bath is not only cleanliness but also to Provide opportunity to note his growth and development, to promote comfort of the infant, To stimulate circulation. A gentle bath at night before bed may help an infant relax and sleep better.

- **Diaper care**

Each baby should have about 8-10 wet and/or dirty diapers a day through the first six weeks of life. After about six to eight weeks see this decrease to between 4-6 wet diapers a day, and some baby's may only have a bowel movement once every week or two.

Lift the infant up by the ankles in order to expose the buttocks, washing and rinsing the buttocks, dry it and apply ointment to the anal area. And apply the clean diaper

- **Feeding**

Infants grow very quickly and have a need to consume milk, either from a breast or bottle, to help support and sustain that growth. Breast milk or formula is a choice each parent should make before a newborn arrives so they can be prepared with the appropriate knowledge and equipment that will be needed to feed a infant. Most babies need to be fed about every 2-4 hours because they have small stomachs

- **Bonding**

Infant massage and skin to skin time are important bonding times when caring for an infant to make baby feel safe, secure and loved, so take some time out of the day to rub baby down with lotion or hold him/her up

- **Sleep**

The total daily sleep is approximately 15 hours. The number of naps per day varies, infants may take one or two naps by the end of the first year. Uncomfortable wetness or dirty diapers can also wake a baby.

Signs of Possible Developmental Delays

- Poor sucking reflex, absent or minimal blink reflex to bright light.
- Doesn't focus and follow a nearby object that is moving side to side.