

Newborn stage

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Newborn stage



- Newborn stage is the first 4 weeks or first month of life. It is a transitional period from intrauterine life to extra uterine environment.

Physical growth of newborn



- - **Weight** = 2.700 – 4 kg
- - Wt loss 5% -10% by 3-4 days after birth
- - Wt gain by 10th days of life

- **Note** : They lose 5 % to 10 % of weight by 3-4 days after birth as result of :
 - Withdrawal of hormones from mother.
 - Loss of excessive extra cellular fluid.
 - Passage of meconium (feces) and urine.
 - Limited food intake.

Height



■ Height

- Boys average Ht = 50 cm
- Girls average Ht = 49 cm
- Normal range for both (47.5- 53.75 cm)

■ Head circumference

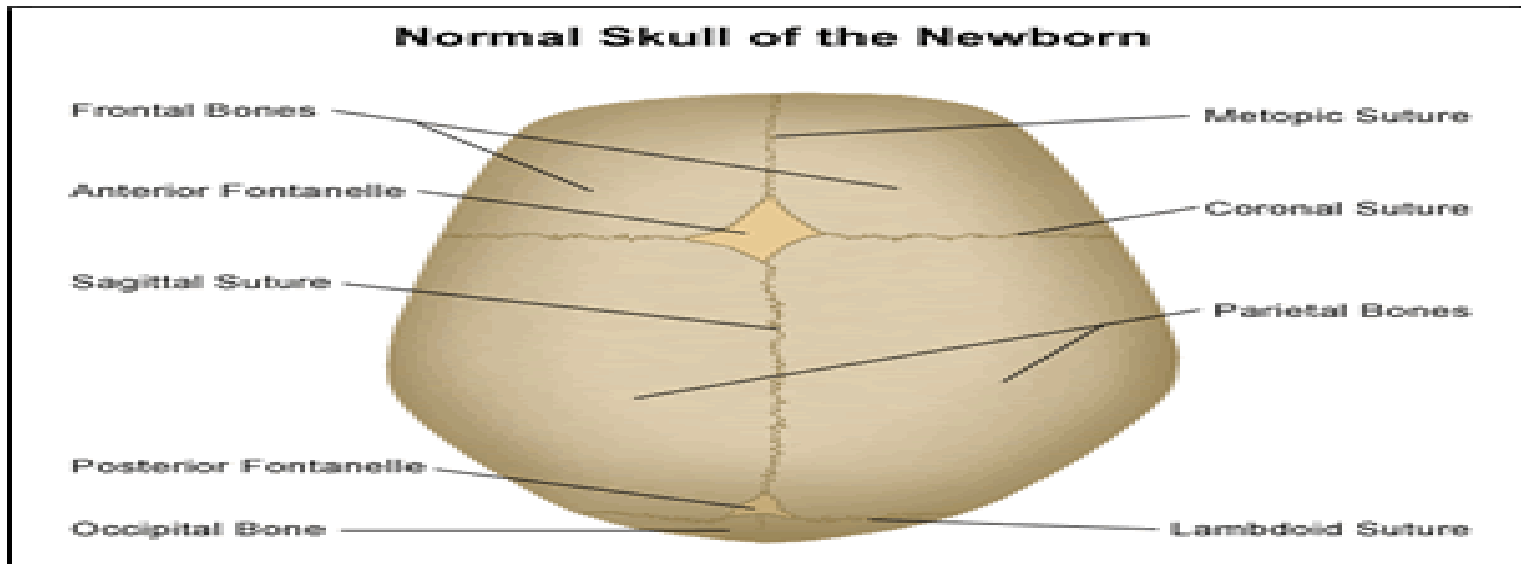
- 33-35 cm
- Head is $\frac{1}{4}$ total body length
- Chest circumference It is 30.5 to 33cm (usually 2–3cm less than head circumference).
- Skull has 2 fontanelles (anterior & posterior)

Posterior fontanel



■ Posterior fontanel

- Triangular
- Located between occipital & 2 parietal bones
- Closes by the end of the 1st month of age



Normal Physiological growth of newborn



- **Normal Physiological growth of newborn**
 - Vital signs
 - - Temperature (36.3 to 37.2°C).
 - - Pulse (120 to 160 b/min).
 - - Respiration (35 to 50 C/min)

RESPIRATION

Normal Variations

30 to 60 respirations per min
Average - 40 respirations per min

HEART RATE (APICAL)

Normal Variations

100 to 160 beats per min
100 while sleeping
160 while crying

TEMPERATURE

Rectal

90.0° F to 99.5° F
(35.6° C to 37.5° C)

Axillary

97.6° F to 98.6° F
(36.5° C to 37.0° C)

BLOOD PRESSURE (AT BIRTH)

Average

75/42

Systolic

60 to 80 mm Hg

Diastolic

40 to 50 mm Hg

Assessment of newborn by using APGAR scores

APGAR scoring chart

SIGN					
	0	1	2	1 min	5 min
Heart Rate	Absent	Less Than 100	Over 100	2	2
Respiratory Effort	Absent	Slow, Irregular	Good Cry	1	2
Muscle Tone	Limp	Some Flexion	Active Motion	1	2
Reflex Irritability	No Response	Grimace	Cry	1	2
Color	Pale	Body Pink, Extr. Blue	All Pink	1	2
TOTAL SCORE				6	10

Reflexes of Newborns

- **Reflexes** are reflex actions originating in the central nervous system that are exhibited by normal infants, but not neurologically intact adults, in response to particular stimuli. These reflexes disappear or are inhibited by the frontal lobes as a child moves through normal child development.

These primitive reflexes are also called infantile, infant or newborn reflexes. As general reflexes divided to 3 main group

- ❖ Feeding (Rooting ,Gag And Swallowing, Sucking)
- ❖ Protective (Cough ,Sneezing, Yawning ,Blinking)
- ❖ Motor (Moro ,Startle ,Grasping ,Tonic-Neck, Stepping ,Babinski)

Considerations



- The presence and strength of a reflex is an important sign of neurological development and function .
- Many infant reflexes as the child grows older although some remain throughout adulthood.

Protective Reflexes :

Reflexes that persist into adulthood are :

- **Blinking reflex** – you blink your eyes when are touched or when sudden bright appears
- **Cough reflex** – you coughs when your airway is stimulated
- **Gag reflex**- you gag when the throat or back of moth is stimulated .
- **Sneeze reflex** – you sneeze when nasal passage irritated .
- **Yawn reflex**- you yawn when the body needs additional oxygen .



2. Feeding Reflexes:



- **Sucking reflex** sucks when area around mouth stimulated
- **Rooting reflex:** is elicited by stroking the cheek. The infant will turn toward the side that was stroked and begin to make sucking motions with its mouth.
- **Gag R.**
- **Extrusion R.** When tongue is touched or depressed infant responds by forcing it outward.
- **Swallowing R.** This reflex is present at birth and persists throughout life .

3. Movement Reflexes :



■ Grasping Reflex:

- When the inside of the palm is touched, babies grasp a finger tightly.

■ Startle Reflex:

- When a baby is put down, held away, or hears a loud noise, a baby throws out their arms, draw back their head and stretch out their legs in response.

3. Movement Reflexes :



■ Babinski Reflex:

- Babies extend their toes when the soles of their feet are stroked.

■ Tonic neck reflex

- The tonic neck reflex, also known as asymmetric tonic neck reflex or 'fencing posture' is present at one month of age and disappears at around four months. When the child's head is turned to the side, the arm on that side will straighten and the opposite arm will bend (sometimes the motion will be very subtle or slight).

3. Movement Reflexes :



- **Babinski's reflex**

A gentle stroke on the sole of the foot (from heel to toe)

.Foot turns in and toes flare up

- **Crawl R. :**When placed on abdomen, infant make crawling movement , with arms and legs .

- **Dance or step R. :** Infants held sole of foot touches a hard surface there is a reciprocal flexion and extension of the leg. Simulating walking ,

One month-Reflexes

Tonic neck reflex



Grasp reflex



Step reflex



Crawl reflex



3.Movement Reflexes :



- **More R** : sudden jarring or change in equilibrium cause sudden extension and abduction of extremities and fanning of fingers , with index finger and thumb forming C shape of extremities .



QUESTIONS



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