



# **Nursing care of the Newborns infant Assessment, care and Birth injury**

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## **Outline:**

- 1. Assessment of the newborn**
- 2. Characteristics of new-born**
- 3. Birth injuries.**

## **Objectives:**

**Describe newborn baby**

**Assessment of newborn infant**

**Nursing care of normal newborn infant**

**Differentiate between: Caput succedaneum and cephalon hematoma**

# Why first assessment is important



The first 24 hours of life are significant because during this period the newborn makes the critical transition from intrauterine to extrauterine life.



# Why first assessment is important

The risk of mortality and morbidity is statistically high during this period.

Assessment of the newborn is essential to ensure that the transition is proceeding successfully.

# Definition of APGAR SCORE

## Apgar score

an **index** used to evaluate the condition of a newborn infant based on a rating of 0, 1, or 2 for each of the five characteristics of color, heart rate, response to stimulation of the sole of the foot, muscle tone, and respiration with 10 being a perfect score.



# Initial assessment: Apgar Scoring



- **The Apgar score is affected by the degree of :**
  - Physiologic immaturity.
  - Infection.
  - Congenital malformations.
  - Maternal sedation or analgesia.
  - Neuromuscular disorders.

# Table of Apgar Score Measurement



	sign	0	1	2
1	Heart rate	Absent	Slow(<100/ minut)	>100/minut e
2	Respiratory effort	Absent	Slow irregular	Regular,cry ing
3	Muscle tone	Limp	Some flexion of extremities	Active movement
4	Response to catheter in nostril	No reaction	Grimace	Cough and sneeze
5	Skin colour	Pale or blue	Pink body, pale extremities	Pink all over





## Cont. Initial assessment: Apgar Scoring

- Evaluation of all five categories are made at 1 and 5 minutes after birth and repeated until the infant's condition stabilized.
- Total scores of **0-3 represent severe distress.**
- Scores of **4-6 signify moderate difficulty.**
- Scores of **7-10 indicate absence of difficulty** in adjusting to extra-uterine life.



# • **General Appearance**

- The newborn's head is disproportionately large for the body.
- The center of the baby's body is the umbilicus rather than the symphysis pubis, as in the adult.
- The body appears long and the extremities short.
- The hands are tightly clenched.
- The neck looks short because the chin rests on the chest.



- **General Appearance**
- Newborns have a prominent abdomen, sloping shoulders, narrow hips, and a rounded chest.
- They tend to stay in a flexed position similar to the one maintained in utero and will offer resistance when the extremities are straightened.



# Measurements of Newborn

**Weight= 2.5-3.8 kg**

**Length = 48-55 cm**

**Head circumference =33-37 cm**

**Chest circumference = 31-35 cm**

**Mid arm circumference = 9.5 cm**

# Vital signs



## ➤ **Temperature:**

Axillary (preferred method) = 36.5 - 37.5 ° C

Rectal- 36.5-37.2 °

## ➤ **Respirations:**

Diaphragmatic = 40—60 respirations/min

## ➤ **Heart rate:**

Apical pulse = 120-160 beats min: faster when crying ;  
slower when sleeping

➤ **Blood pressure:** 65/ 40mm/Hg

➤ **Oxygen saturation :** 95 to 100 percent

# General assessment

## HEAD

**HEAD** ; elongated (molding) in normal Vaginal delivery

❖ **Fontanels** :- Flat, soft

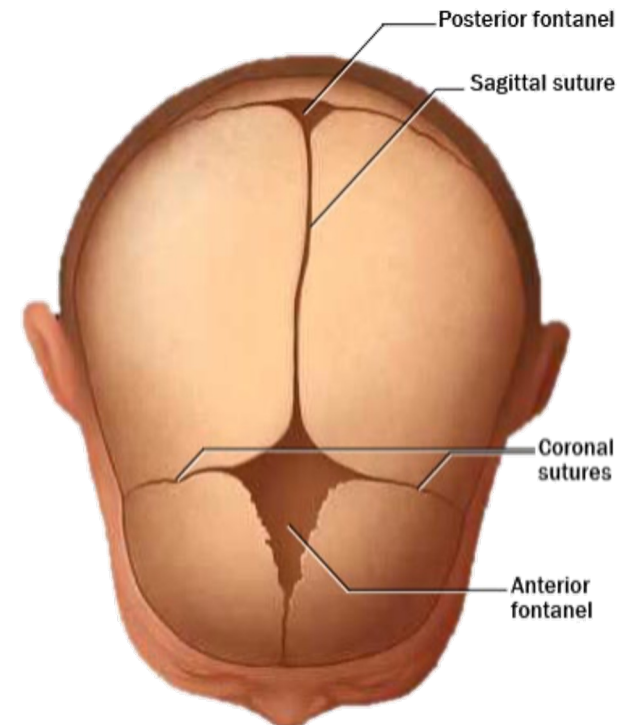
**1-Anterior Fontanel**-firm

**Diamond** shape (*1-4.7 cm in any direction*)

**close:** 9-18 months

**2-Posterior Fontanel**- **Triangular** shape (less than 1 cm)

**close:** 2-4 months



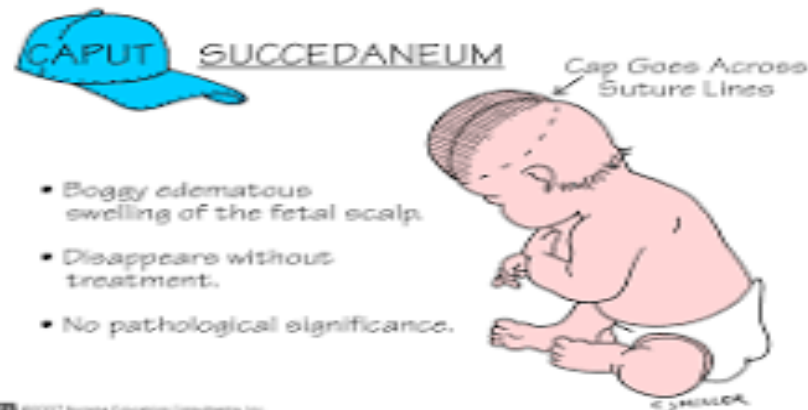


# Birth Injuries

# Caput succedaneum (kuh-PUT sec-seh-DAY-knee-um)



- **Caput succedaneum**
- An edematous swelling on the presenting portion of the scalp of an infant during birth, caused by the pressure of the presenting part against the dilating cervix.
- It most commonly occurs from pressure on the head as the baby moves through the birth canal during a prolonged or difficult vaginal delivery.





# Caput succedaneum



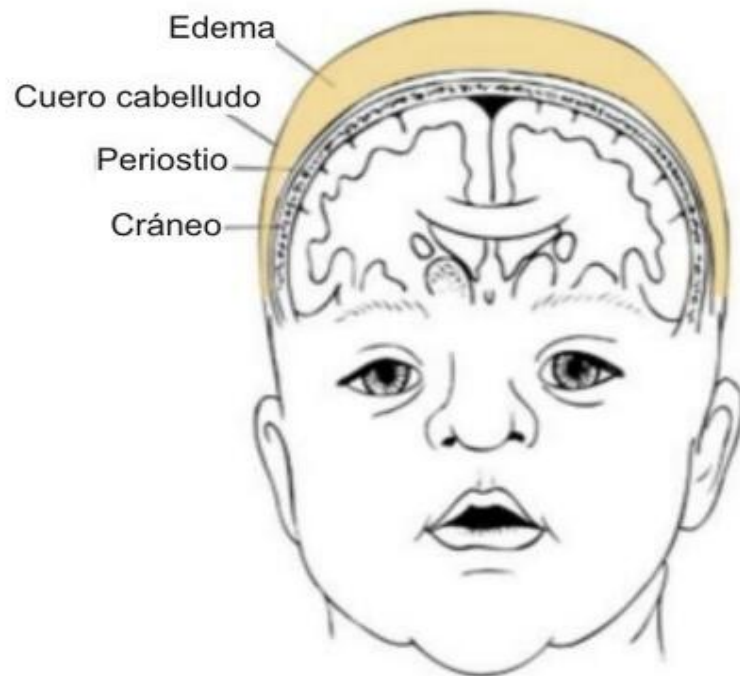
# Caput succedaneum



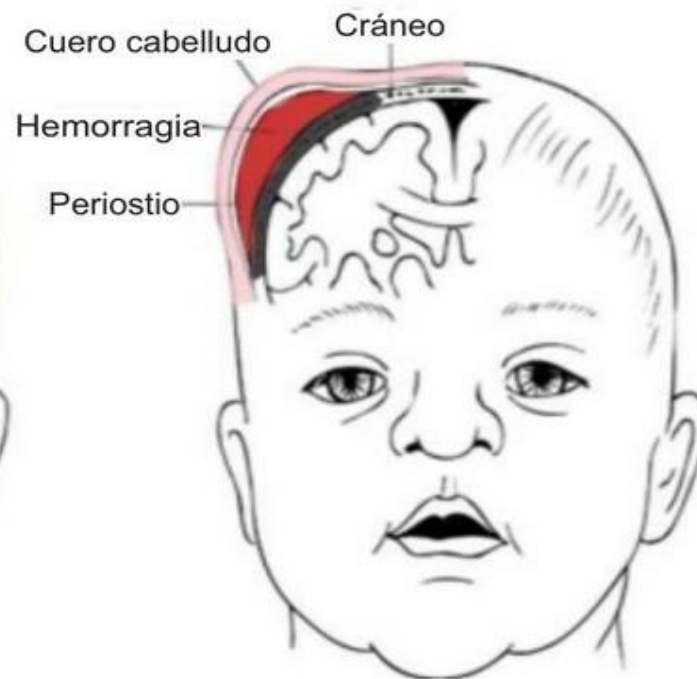
# Caput succedaneum



## CAPUT SUCCEDANEUM Y CEFALOHEMATOMA



**CAPUT SUCCEDANEUM**



**CEFALOHEMATOMA**

# Caput succedaneum



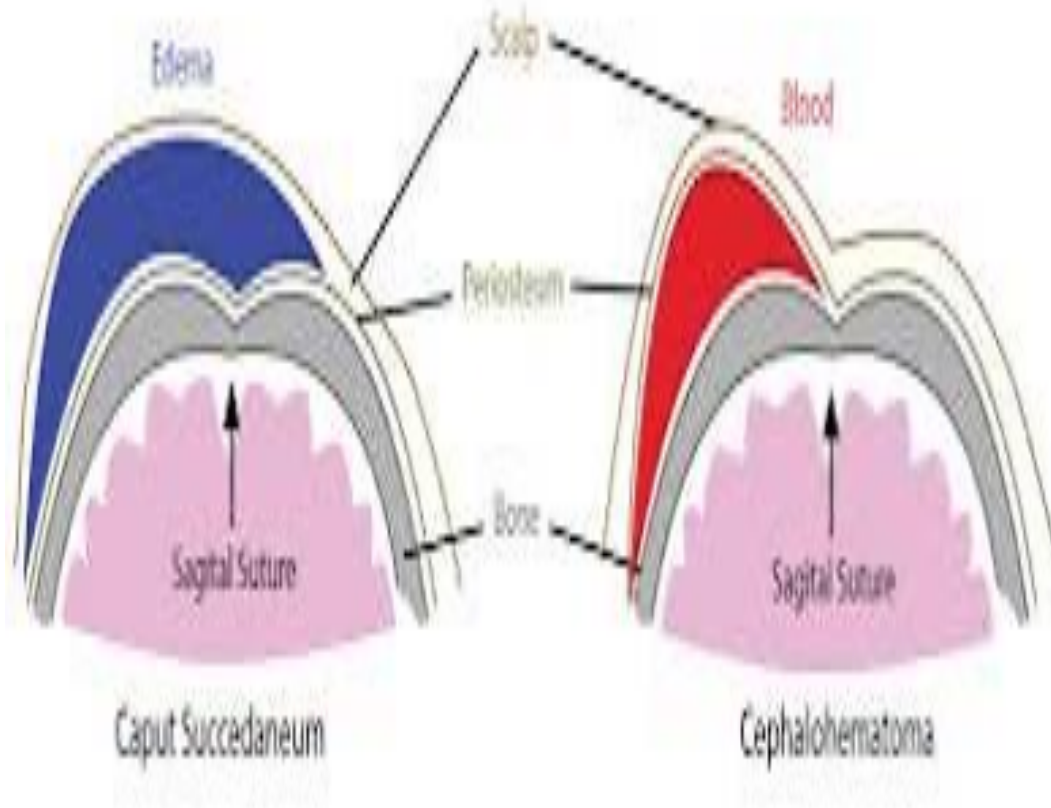
- Caput succedaneum extends across the midline and over suture lines. Caput succedaneum does not usually cause complications and usually resolves over the first few days. Management consists of observation only.



# Cephalhematoma:

**Cephalhematoma is a subperiosteal collection of blood secondary to rupture of blood vessels between the skull and the periosteum, in which bleeding is limited by suture lines (never cross the suture lines).**

# Cephalohematoma





Approximately 2 out of every 100 babies develop a **cephalohematoma** after birth ( 1% - 2 % of spontaneous vaginal deliveries and 3% - 4 % of forceps or vacuum-assisted deliveries).

Cephalohematomas are not harmful or hazardous to a baby's health because the pooled blood mass develops outside the skull. The skull protects the brain from any potential damage from cephalohematomas.



## CAPUT SUCCEDANEUM

1. Present at birth on normal vaginal delivery.

2. May lie on sutures, not well defined.

3. Soft, pits on pressure.

4. Skin ecchymotic.

5. Size largest at birth , gradually subsides within a day.

6. No underlying skull bone fracture.

7. No treatment required.

## CEPHAL HAEMATOMA

1. Appears within a few days after birth on normal or forceps delivery.

2. Well defined by suture, gradually developing, hard edge.

3. soft, elastic but does not pits on pressure.

4. No skin change.

5. Become largest after birth and then disappears within 6-8 weeks to few months.

6. May underlying skull bone fracture.

7. No treatment required.

# Cephalhematoma



# Cephalhematoma





# Reflexes

# Reflex



The presence and strength of a reflex is an important **sign of neurological** development and function.

Testing reflexes is an important part of the **neurologic examination**.



# Oral Reflexes

# 1- Rooting **or** search reflexes

Newborns turn head in direction of stimulus, opens mouth, and begins to suck when cheek, lip, or corner of mouth is touched with finger or nipple.

Reflexes	Appeared	Disappeared
Rooting	birth	4- 7 month



# Sucking and Swallowing reflexes

stimulations of **upper** and **lower** lips produced **movement** of the lips and tongue in direction of the stimulus

Reflexes	Appeared	Disappeared
Sucking	birth	4 -7 month (while asleep)
Swallowing	birth	7 month (while awake)





# 3- Extrusion

Newborn **pushes tongue outward** when tip of tongue is touched with finger or nipple.

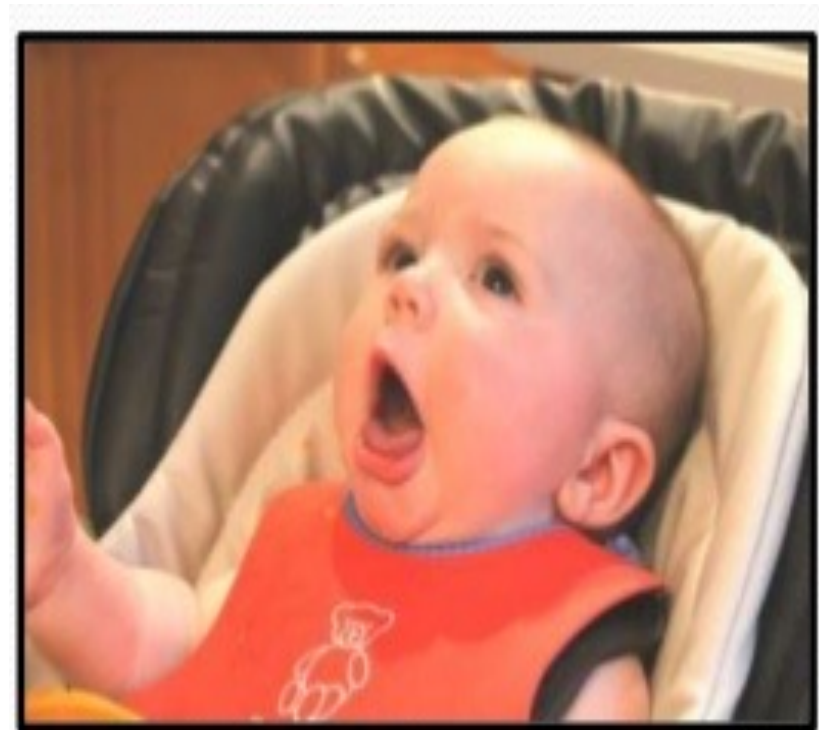
Reflexes	Appeared	Disappeared
Extrusion	birth	4 month



# 4- gag reflexes

**Stimulation** of **posterior pharynx** by food, suction, or passage of a tube causes infant to gag.

Reflexes	Appeared	Disappeared
gag	birth	persists throughout life



## 5- Yawning reflexes

Yawning is a **spontaneous** response to decreased oxygen by increasing amount of inspired air.

Reflexes	Appeared	Disappeared
Yawning	birth	persists throughout life



# 6- Coughing reflexes

**Irritation** of mucous membranes of larynx or **tracheobronchial** tree causes coughing.

Reflexes	Appeared	Disappeared
Coughing	birth	persists throughout life





# Nose reflexes

# 7- Sneezing reflexes

Sneezing is a **spontaneous response of nasal** passages to **irritation** or obstruction.

Reflexes	Appeared	Disappeared
Sneezing	birth	persists throughout life



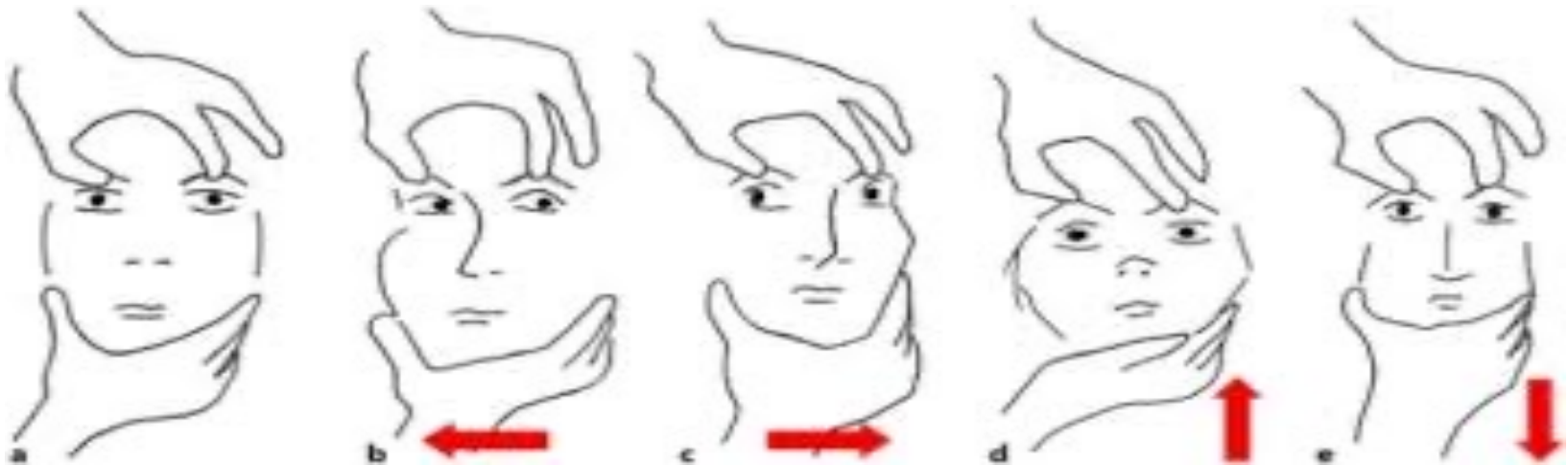


# Eye reflexes

# 9- Doll's Eye reflex

As **head** is **moved** slowly to right or left, eyes lag behind and do not immediately adjust to new position of head

Reflexes	Appeared	Disappeared
Doll's Eye	birth	10 days





# 10- Blinking reflexes



Blinking or corneal Infant **blinks at sudden** appearance of a bright light or at approach of an object toward cornea

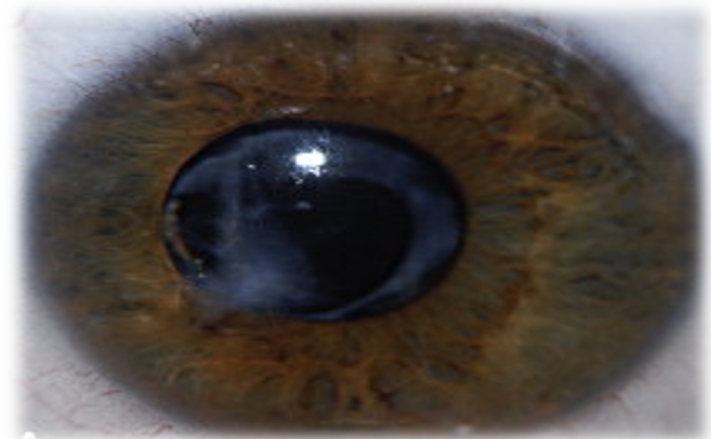
Reflexes	Appeared	Disappeared
Blinking	birth	persists throughout life



# 11- Pupillary **or** corneal reflexes

- Pupil constricts when a bright light shines toward it

Reflexes	Appeared	Disappeared
Pupillary	persists throughout life	death





# Mass reflexes

# 12- Moro

Sudden jarring or change in equilibrium causes sudden **extension** and **abduction** of **extremities** and **fanning** of fingers, with **index** finger and **thumb** forming a **C shape** followed by flexion and adduction of extremities; legs may weakly flex; infant may cry

Reflexes	Appeared	Disappeared
Moro	birth	3-4 months.



# 13- Startle reflex

- A sudden loud noise causes abduction of the arms with flexion of elbows; hands remain clenched.
- Is **different** from **Moro** in here elbow remained flexed (not extended as in Moro) and hands remain close.

Reflexes	Appeared	Disappeared
Startle	birth	4 months.



# 14- Dance **or** Step reflex

- Stepping motions when sole of foot touches hard surface

Reflexes	Appeared	Disappeared
Dance <b>or</b> Step	birth	3-4 weeks



# 15- Tonic neck **or** “fencing” reflex



- When infant’s head is turned to one side, arm and leg extend on that side, and opposite arm and leg flex

Reflexes	Appeared	Disappeared
Tonic neck <b>or</b> “fencing”	2 months	4-6months.



# 16- Prone crawl reflex

- Newborn will attempt to crawl forward with both arms and legs when placed on abdomen or flat surface.



Reflexes	Appeared	Disappeared
Prone crawl	birth	6 wk



# 17- Placing reflex

When infant is **held upright under arms** and dorsal side of foot is briskly placed against hard object, such as table, leg **lifts** as if foot is stepping on table.

Reflexes	Appeared	Disappeared
Placing	birth	6 wk





# Extremities

# 18- Palmar grasp reflex

- Newborn's **finger** will **curl around object** and hold on momentarily when finger is placed in palm of newborn's hand.

Reflexes	Appeared	Disappeared
Palmar grasp	birth	4-6 months



# 19- Plantar Grasp reflex



- Newborn's **toes will curl downward** when a finger is placed against the base of the toes.

Reflexes	Appeared	Disappeared
Plantar grasp	birth	10 months

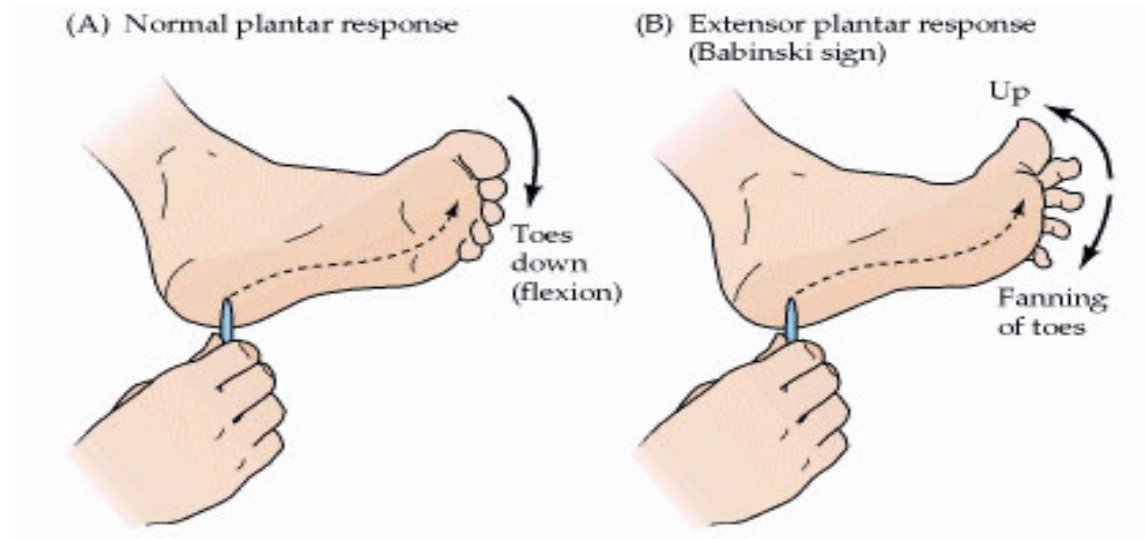


# 20- Babinski Reflexes



- **Stroking outer sole of foot upward** from heel and across ball of foot causes toes to hyperextend and hallux to dorsiflex

Reflexes	Appeared	Disappeared
Babinski	birth	after 1 yr



# Nursing **care** of the newborn:



- 1) Breast feeding.
- 2) Maintenance of body temperature.
- 3) Body massage.
- 4) Skin care & baby bath.
- 5) Care of the umbilical stump.
- 6) dress for the baby.
- 7) Weight record.
- 8) Immunization.
- 9) Supplements & follow-up.



















# References



- 1) Hockenberry M. J.(2017), Wong's Essential of Pediatric Nursing,10<sup>th</sup> ed, edidtors Wilson D., Winkelstein M., Mosby .