

Health problems of the Newborn:

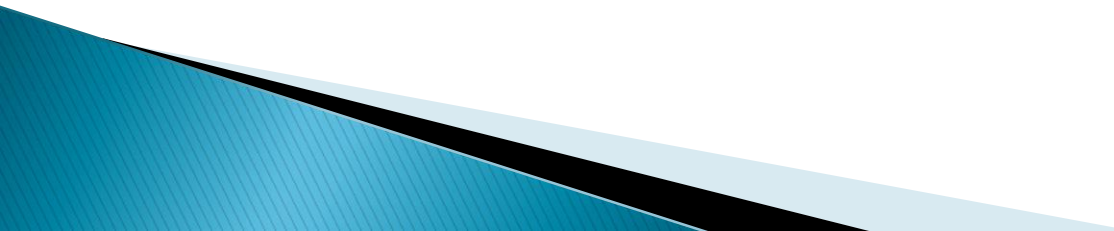
Birth injuries

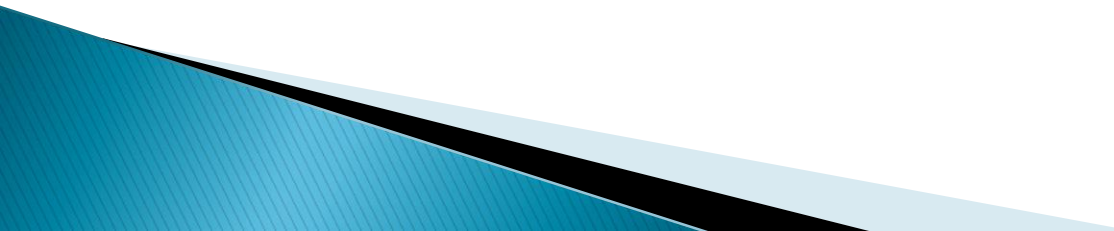
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3rd lecture



Birth injuries are injuries that occur during the birth process. They are most likely to occur when the infant is :

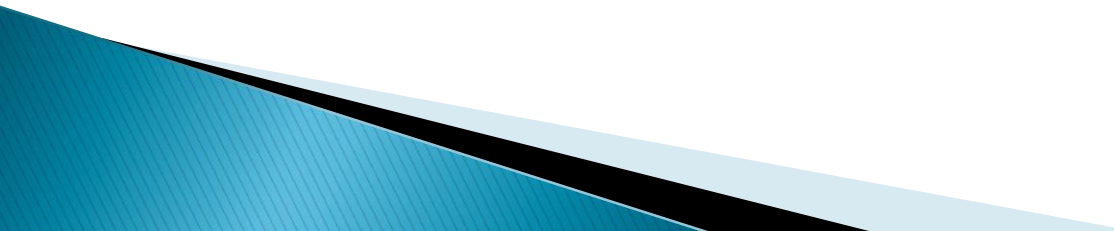
- ▶ large, the presentation is breech,
 - ▶ forceful extraction is used, or
 - ▶ Inexperienced practitioners manage the delivery.
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- ▶ Many injuries are minor and resolve spontaneously in a few days; others, although minor, require some degree of intervention.
 - ▶ others can be serious and even fatal.
 - ▶ Part of the nurse's responsibility is to identify such injuries with appropriate intervention can be initiated as soon as possible.
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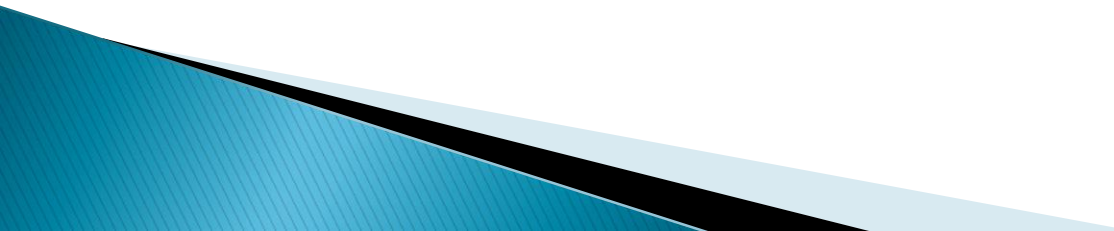
A: Soft tissue Injury

- ▶ Soft tissue injuries usually occurs when there is some degree of disproportion between the presenting part and the maternal pelvis (cephalopelvic disproportion).

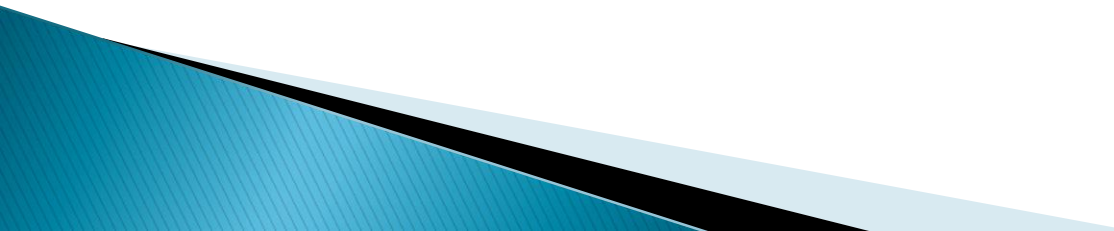
Causes of soft tissue injuries

- ▶ Dystocia (difficult birth)
 - ▶ Cephalopelvic disproportion
 - ▶ Forceps delivery
 - ▶ Vacuum delivery
 - ▶ Enlarged fetal size
 - ▶ Improper “epiziotomy” technique.
 - ▶ Cesarean section (rare)
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Signs, symptoms and features of soft tissue injuries in the newborn:

- ▶ Facial Abrasions: a minor wound in which a surface of the newborn's facial skin is worn specially with dystochcia and forceps delivery.
 - ▶ Scleral hemorrhage specially with vertex presentation .
 - ▶ Ecchymoses and petechiae in the newborn's face with brow (face) or breech (feet) presentation.
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Nursing care for soft tissue injuries

- ▶ Assess the newborn for bleeding from injury site .
 - ▶ The nurse must know that these soft injuries usually fade (disappear) spontaneously within few days, without treatment .
 - ▶ Explain, reassure and provide health information to the parents about these injuries.
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Head Trauma

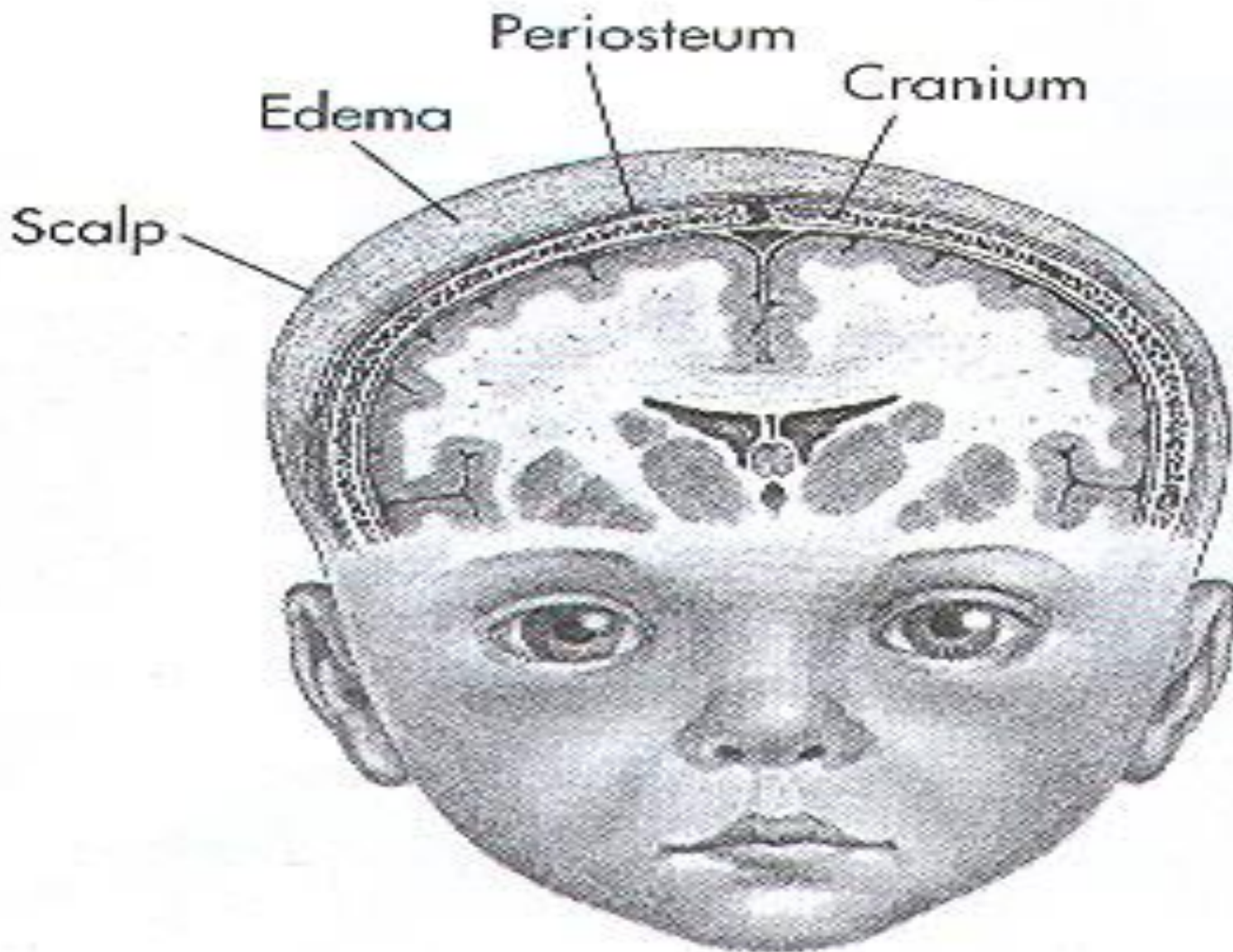
- ▶ Trauma to the head and scalp that occurs during the birth process is usually benign but occasionally results in more serious injuries.

There are three main types of extra-cranial (out of the cranium, brain) hemorrhage, which are :

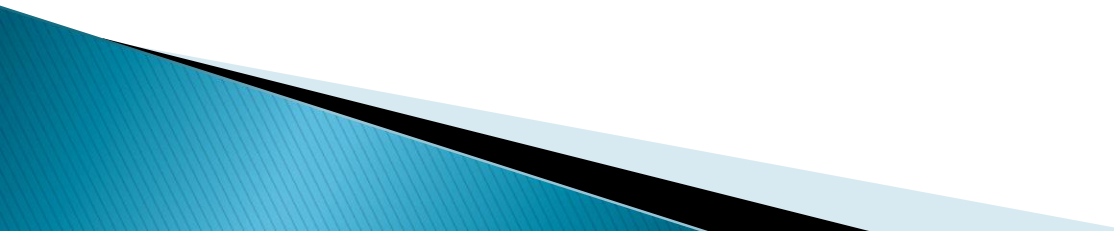
- ▶ Caput Succedaneum, Cephalhematoma, and sub-galeal hemorrhage.
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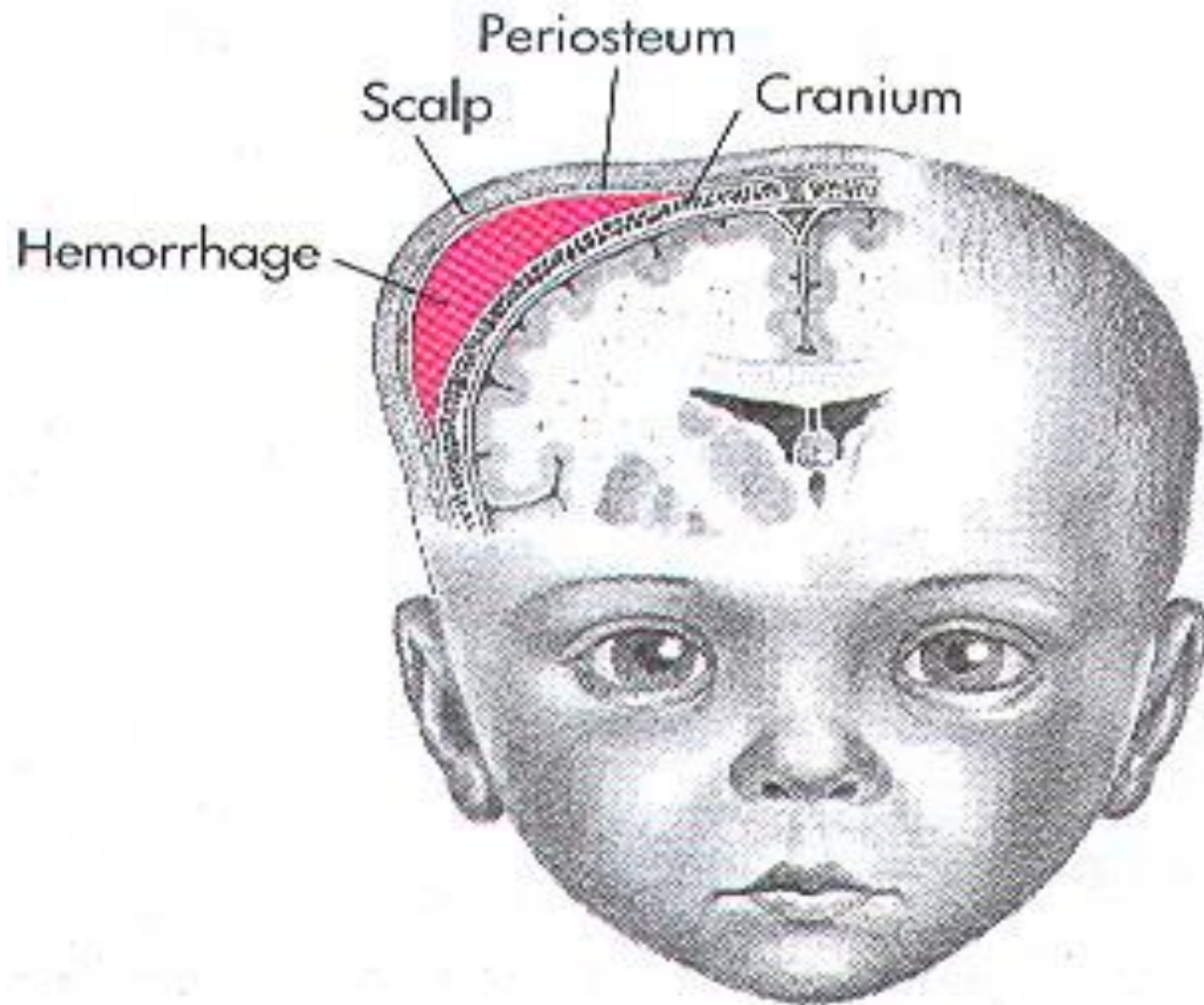
Caput succedaneum

- ▶ The most commonly observed scalp lesion.
 - ▶ Observed usually with vertex delivery.
 - ▶ Edematous area situated over the portion of the scalp .
 - ▶ The swelling is composed of blood or serum, or both
 - ▶ No specific treatment is required , the swelling is usually subsided within few days.
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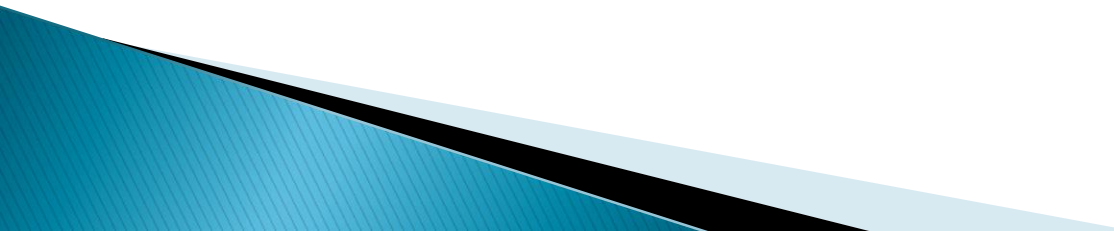


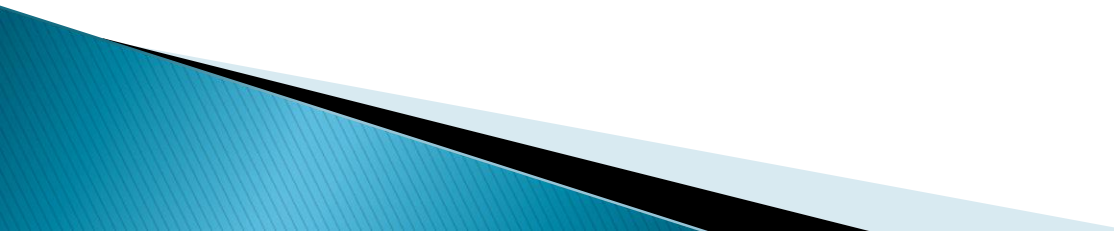
Cephalohematoma

- ▶ Cephalohematoma is formed when blood vessels ruptures during delivery to produce bleeding into area between the bone and its periosteum .
 - ▶ This injury is usually occurred with the primipara woman, and associated with vacuum and forceps delivery.
 - ▶ No treatment is required for the uncomplicated hematoma.
 - ▶ Hyperbilirubinemia may result if hematoma resolution due to blood lyses .
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Subgaleal hemorrhage

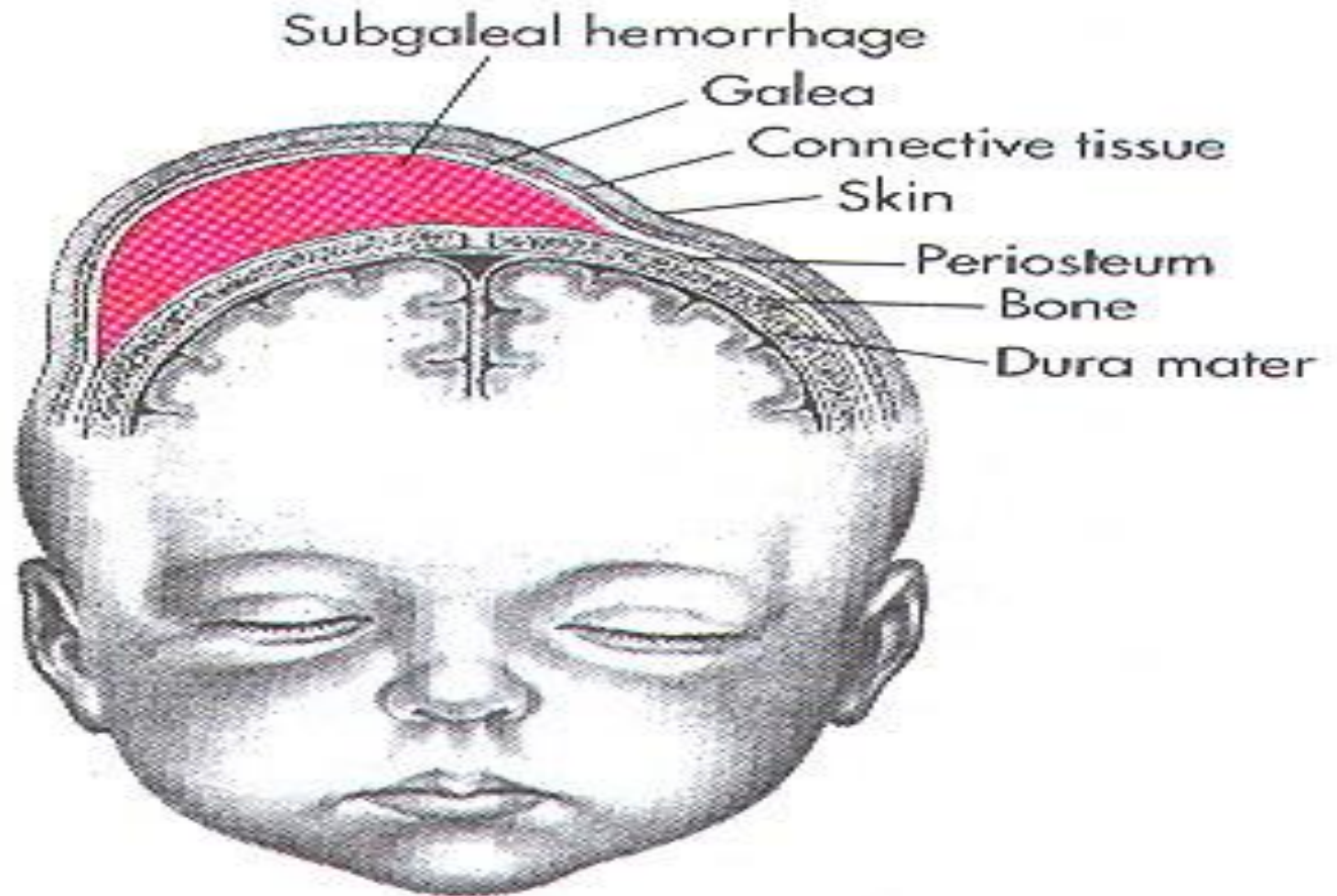
- ▶ Subgaleal hemorrhage is bleeding into the subgaleal compartment which is the tendinous sheath that connects the frontal and occipital muscles and forms the inner surface of the scalp.
 - ▶ .
 - ▶ This injury occurs as a result of pressure through the head (of the infant) into the pelvic outlet.
 - ▶ It is commonly occurred after vacuum delivery.
 - ▶ The early detection is so vital .
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- ▶ Serial head circumferences may detect any increase due to hemorrhage .
 - ▶ The bleeding may extend to the posterior aspect of the ear and neck.
 - ▶ Monitoring of the bleeding times and coagulation is important.
 - ▶ Assessment to the level of consciousness.
 - ▶ Assessment to the level of Hb and Hct.
 - ▶ Increase in bilirubin is expected due to blood lyses.
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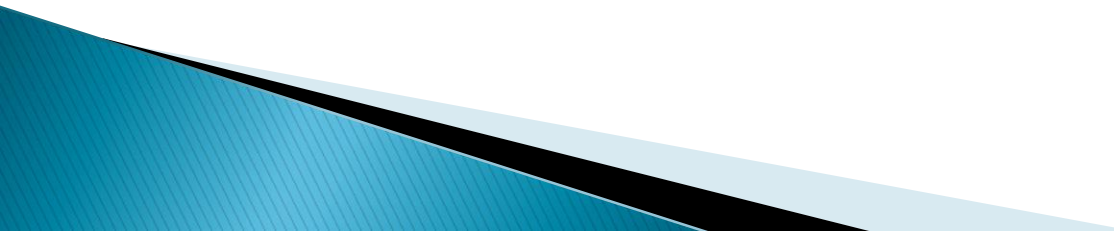
Complications

such as

- ▶ Infection,
- ▶ Sub- Dural hematoma,
- ▶ Intraventricular hemorrhage.



B: FRACTURES

- ▶ Fracture of the *clavicle*, is the most frequent birth injury. Crepitus (the crackling sound produced by the rubbing together of fractured bone fragments) is often heard and/or felt (especially if the infant is in a prone position) on further examination,
 - ▶ Fractures of the neonatal skull are uncommon.
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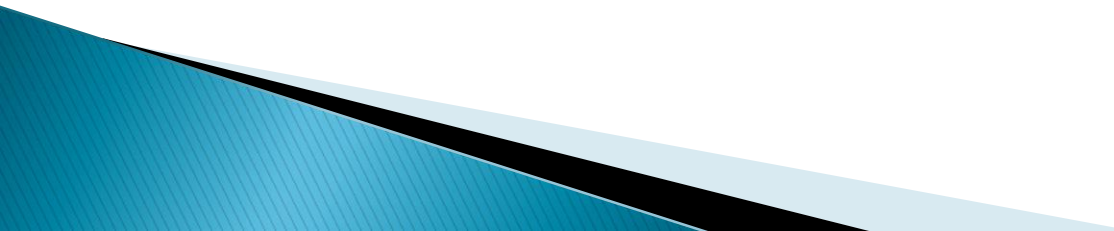
- ▶ Skull fractures usually follow prolonged, difficult delivery or forceps extraction. Most fractures are linear, but some may be visible as depressed indentations resembling a Ping-Pong ball.

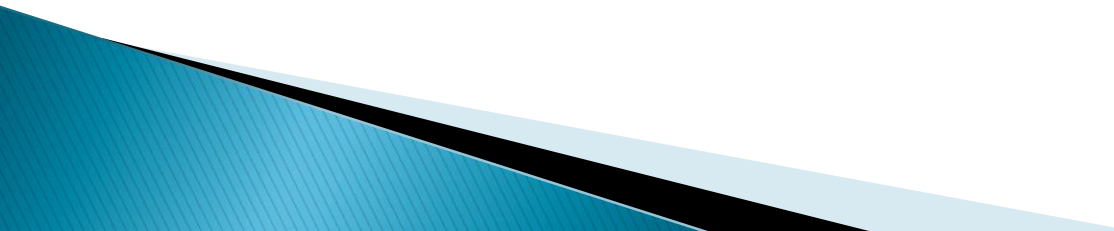
Ping-Pong
ball



Nursing Considerations

Frequently no intervention may be prescribed other than:

- ▶ 1. Proper body alignment,
 - ▶ 2. Careful dressing and undressing of the infant.
 - ▶ 3. Handling and carrying that support the affected bone.
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- ▶ Occasionally. For immobilization and relief of pain, the arm on the side of the fractured clavicle may be fixed on the body by pinning the sleeve to the shirt or by application of a triangular sling or a figure-S bandage.
 - ▶ Linear skull fractures usually require no treatment. A Ping-Pong type fracture may require decompression by surgical intervention.
 - ▶ The infant is carefully observed for signs of cerebral complications.
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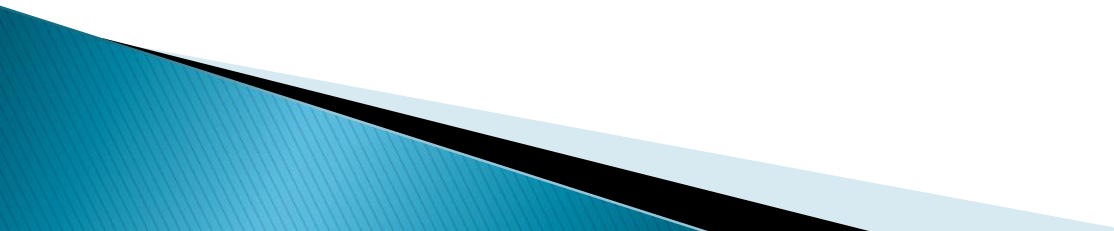
C– PARALYSIS

Facial Paralysis

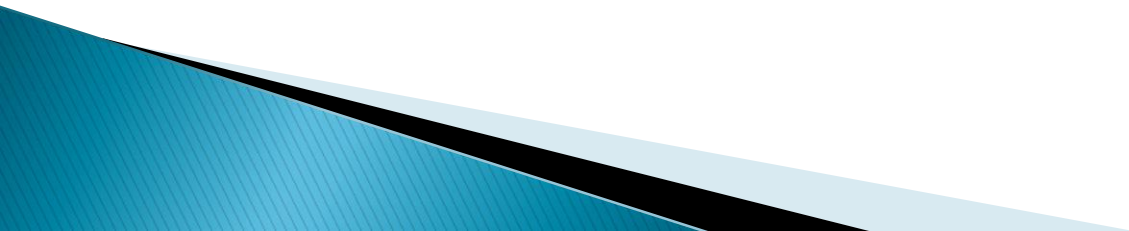
- ▶ Pressure on the facial nerve during delivery may result in injury to cranial nerve VII.

Clinical manifestations are primarily loss of movement on the affected side, such as:

- ▶ 1–inability to completely close the eye,
- ▶ 2– Drooping of the corner of the mouth, and
- ▶ 3– Absence of wrinkling of the forehead and naso labial fold .

- ▶ Paralysis is most noticeable when the infant cries. The mouth is drawn to the unaffected side, the wrinkles are deeper on the: normal side, and the eye on the involved side remains open.
 - ▶ No medical intervention is necessary. The paralysis usually disappears spontaneously in a few days but may as long as several months.
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Peripheral Nerve Injuries



Brachial palsy

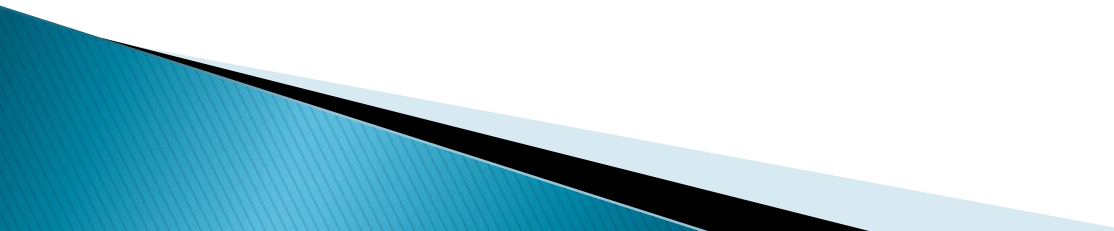
Plexus injury results from forces that alter the normal position and relationship of the arm.

Shoulder and neck

- ▶ 1 – Erb's *palsy* (*Erb–Duchenne paralysis*), caused by damage to the upper plexus, and is usually a result of stretching or pulling away of the shoulder from the head cause injury to C5 and C6 roots..
- ▶ The less common in plexus palsy, or

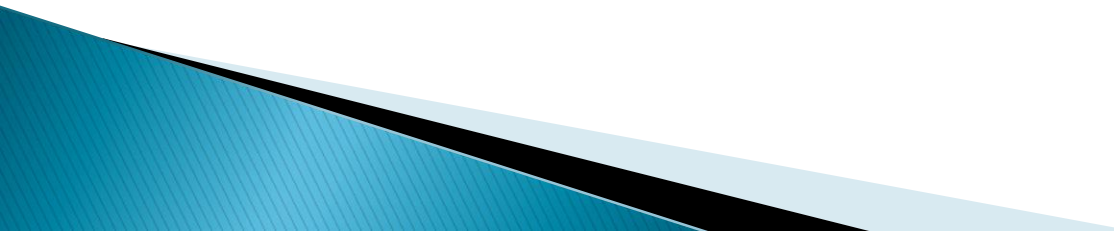
- ▶ 2– Klumpke's palsy results from severe stretching of the upper extremity while the trunk is relatively less mobile cause injury to C7 and C8 and 1st thoracic roots.

The clinical manifestations of Erb's palsy are related to paralysis of the affected extremity and muscles.

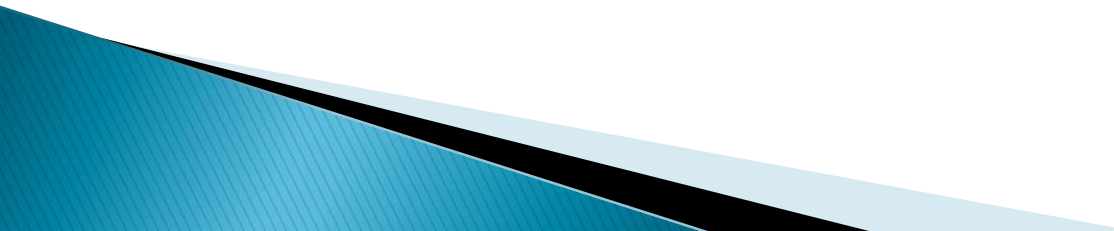
- ▶ 1–The arm hang limp alongside the body.
 - ▶ 2– The shoulder and arm adducted and internally rotated.
 - ▶ 3–The elbow is extended and the forearm is pronated with the wrist and fingers flexed.
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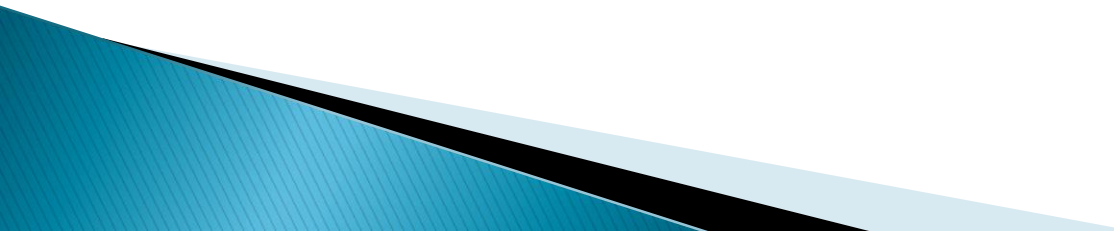
- ▶ In lower plexus palsy the muscles of hand are paralyzed with consequent wrist drop and relaxed fingers. In severe forms of brachial palsy. the entire arm is paralyzed and hangs limp and motionless at the side.



- ▶ Complete recovery from stretched nerves usually takes 3–6 months.
 - ▶ For those injuries that do not improve spontaneously, surgical intervention may be needed to relieve pressure on the nerve or to repair the nerves with grafting.
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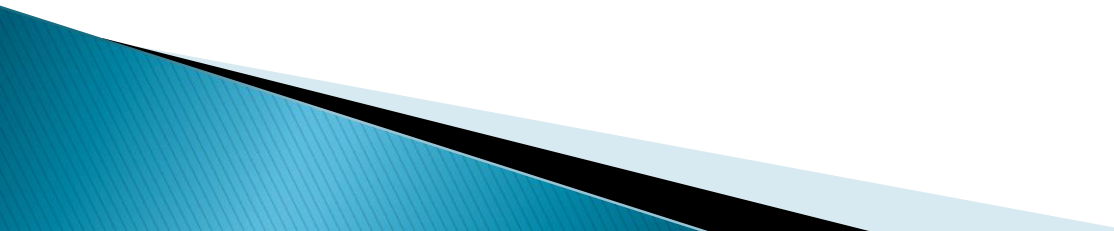
Phrenic Nerve Paralysis


- ▶ Phrenic nerve paralysis causes diaphragmatic paralysis as demonstrated on radiographic examination by a flattened appearing diaphragm on the affected side.
 - ▶ The injury sometimes occurs in conjunction with brachial palsy.
 - ▶ Respiratory distress is the most common and important sign of injury.
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- ▶ Because injury to the phrenic nerve is usually unilateral, the lung on the affected side does not expand and respiratory effort is ineffectual.
 - ▶ To facilitate maximum expansion of the uninvolved lung, the infant is positioned on the effected side.
 - ▶ Cyanosis is prominent sign, pneumonia is frequent complication.
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Nursing Considerations

- ▶ # Nursing care of the infant, with facial nerve paralysis involves aiding the infant in sucking and helping the mother with feeding techniques.
- ▶ Because part of the mouth cannot close tightly around the nipple, the use of a soft rubber nipple with a large hole is often helpful. Sometimes the infant needs to be gavage fed to prevent aspiration.
- ▶ (nursing diagnosis)

- ▶ If the lid of the eye on the affected side does not close completely, artificial tears can be instilled daily to prevent drying of the conjunctiva, sclera, and cornea.
 - ▶ The lid is often taped shut to prevent accidental injury. If eye care is needed at home, the parents are taught the procedure for administration of eye drops before the infant's discharge from the nursery.
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- ▶ Nursing care of the newborn with brachial palsy is concerned primarily with proper positioning of the effected arm.
 - ▶ 1-In upper arm paralysis the arm should be abducted 90 degrees with external rotation at the shoulder, 90 degree flexion at the elbow, full supination of the forearm, and slight extension of the wrist so that the palm of the hand is turned toward the face. The position may be maintained with intermittent splinting. The arm should also receive complete passive range of motion exercises several times a day to maintain muscle tone and function.
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- ▶ 2–In dressing the infant, preference is given to the affected arm. Undressing begins with the unaffected arm, and redressing begins with the affected arm to prevent unnecessary manipulation and stress on the paralyzed muscles.
- ▶ 3– Parents are taught to use the "football" position to hold the infant and to avoid picking the child up from under the axillae or by pulling on the arms

- ▶ #The infant with phrenic nerve paralysis requires the same nursing care as any infant with respiratory distress. As with other birth injuries, emotional needs of the family are similar to those discussed for soft tissue injury Also, because of the extended length of recovery, follow-up is essential.

The prognosis

- ▶ Depends on whether the nerve was merely injured or was lacerated.
 - ▶ If the paralysis was due to edema and hemorrhage about the nerve fibers, function should return within a few months;
 - ▶ If due to laceration, permanent damage may result.
 - ▶ Involvement of the deltoid is usually the most serious problem and may result in a shoulder drop secondary to muscle atrophy.
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