The Normal Newborn Baby

- The neonatal period: < 28 days of life
- The perinatal period: from 20\textsuperscript{th} wk of gestation to the 7\textsuperscript{th} – 28\textsuperscript{th} day after birth
- WT : 3.5 kg range 2.5 – 4.6 kg
- Lt : 50 cm range 45 – 55 cm
- OFC : 35 cm range 32.6 – 37.2 cm
- Term : 37 – 42 wks preterm: live born infants delivered before 37 wk from the 1\textsuperscript{st} day of the LMP
- Post term: > 42 wk
• disorders that affect the newborn originate in utero, during birth, or in the immediate postnatal period

Clinical Manifestations of Diseases in the Newborn Period:
Central cyanosis has respiratory, cardiac, central nervous system (CNS), hematologic, and metabolic causes
- **Pallor**: anemia or acute hemorrhage, hypoxia, asphyxia, hypoglycemia, sepsis, shock, or adrenal failure.
- **Hypotension** suggests shock from hypovolemia (hemorrhage, dehydration), the systemic inflammatory response syndrome (bacterial sepsis, intrauterine infection, necrotizing enterocolitis), cardiac dysfunction, pneumothorax, pneumopericardium, pericardial effusion, or metabolic disorders (hypoglycemia, adrenal insufficiency–salt-losing adrenogenital syndrome)
• **Convulsions (seizures)** usually point to a disorder of the CNS, metabolic disorders, benign familial seizures, inborn errors of metabolism, or drug withdrawal.

• **Lethargy:** infection, asphyxia, hypoglycemia, hypercapnia, sedation from maternal analgesia or anesthesia, a cerebral defect, or any severe disease, including an inborn error of metabolism. Lethargy appearing after the 2nd day should, in particular, suggest infection. Lethargy with emesis suggests increased intracranial pressure or an inborn error of metabolism.
• **Irritability** may be a sign of discomfort accompanying intra-abdominal conditions, meningeal irritation, drug withdrawal, infections, congenital glaucoma, or any condition producing pain.

• **Failure to feed** well is seen in most sick newborn infants: infection, a central or peripheral nervous system disorder, intestinal obstruction, and other abnormal conditions.

• **Fever**: high an environmental temperature, dehydration fever, infections.

• **Hypothermia** may accompany infection or other serious disturbances of the circulation or CNS.
• Apnea
• Jaundice
• **Vomiting** during the 1st day of life suggests obstruction in the upper digestive tract or increased intracranial pressure. Other causes: sepsis, overfeeding, reflux, pyloric stenosis, milk allergy, inborn error of metabolism

• Diarrhea
• **Abdominal distention**
• Failure to move an extremity (**pseudoparalysis**) fracture, dislocation, nerve injury, osteomyelitis and other infections that cause pain on movement of the affected part.
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• Physical Examination:

1. general: activity, posture, abnormal movements, respiratory distress, cyanosis, edema; generalized:
   a. prematurity
   b. hypoPTNemia: severe erythroblastosis, cong. nephrosis
   c. Hurler syndrome

localized: malformation of the lymphatic system, Turner syndrome
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2. Skin: acrocyanosis, icterus
   Pallor: asphaxia, anemia, shock, edema
   Plethora: polycythemia
   Cap. & cavernous hemangiomas
mongolian spot: slate blue, well demarcated area
   of pigmentationover buttocks, back and other
   body parts in more than 50% of black, Asian
   infants, disappear within the 1st year
the vernix, skin and cord may be stained brown
yellow: meconium stained amniotic fluid
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The nails: rudimentary in preterm, long in post term

erythema toxicum: small white occasionally vesiculopustular papules on an erythematous base, develop 1 – 3 days after birth, persist for 1 wk distributed on the face, trunk and extremities

Pustular melanosis: benign lesions seen in black infants, present at birth as vesiculopustular eruptions around the chin, neck, back, extremities and palms or soles, last 2 -3 days
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Vernix caseosa White, cheesy vernix caseosa on a newborn baby, just a few seconds old.
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**Cutis marmorata**
Reticulated, vascular mottling on the leg of a healthy newborn which resolves quickly with warming
Erythematous macules with central vesicles scattered diffusely over the entire body of a newborn. A smear of the vesicle contents would show a predominance of eosinophils.
Transient neonatal pustular melanosis
Vesicles and pustules scattered diffusely on the leg of an infant. Note the hyperpigmented areas at sites of resolved lesions. A smear of the vesicle contents would reveal a predominance of neutrophils.
Ulcerated hemangioma in an infant
Capillary malformation on the trunk of an infant
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3. The skull: molding, suture lines, size and tension of the ant. Fontanel
4. Face: dysmorphic features, facial palsy
5. Eyes: conjunctival & retinal hges usually benign
   - Iris: colobomas, heterochromia
   - Large cornea: > 1 cm .... Cong glaucoma, cataract, corneal opacity, microphthalmia
6. Ears: deformities, setting
7. Nose: nasal bridge, patency of nostrils
8. Mouth: natal, neonatal teeth, soft & hard palate( cleft)
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the tongue (relatively Large)

9. Neck: short, goitre, cystic hygroma, branchial cyst, thyroglossal cyst, sternomastoid tumor, teratoma, hemangioma, torticollis, webbing (Turner in Females)

10. Chest: breast hypertrophy is common (mastitis and breast abscess should be excluded)

RR 30 – 60/ min

flaring, recessions, grunting

the breath sounds brochovesicular , air entry
Branchial cleft cyst  An asymptomatic, unilateral cystic swelling on the neck present since birth.
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Heart: transitory murmurs are common
  HR 90 – 180/min, SVT > 220/min, femoral delay

11. Abdomen: liver and tip of the spleen palpable
  renal pathology is the cause of most neonatal abdominal masses

Cystic m.: hydroneph., MCDK, adrenal hge, intestinal duplication, hydrometrocolpos, choledochal- ovarian, omental, pancreatic cysts
solid masses: neuroblastoma, cong mesoblastic nephroma, teratoma, hepatoblastoma
Solid flank mass: renal v thrombosis
Abd distension: obstruction, perforation of GIT, meconium ileus, sepsis, peritonitis
Scaphoid abd: diaphragmatic hernia
Abd wall defects: omphalocele, gastroschisis
Omphalitis: acute local inflammation of the periumblical tissues
11. The genitalia respond to maternal hormones producing enlargement and secretion, so that blood 99% of term & 95% of preterm pass meconium within 48 hours.

The anus: imperforate

Delayed passage of meconium: meconium ileus, CF, obstructive GIT disorders, Hirschsprung disease, maternal MG sulphate RX

12. Extremities, hips

13: neurologic examination: tone, reflexes