

# Newborn Prophylaxis, Screening and Care

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# APGAR Score

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- The scores at 1 and 5 minutes of age provide an accepted, universally used method to assess the status of the newborn infant immediately after birth. Should NOT be used to predict individual neonatal outcome as it is NOT an accurate prognostic tool
- Scoring (each given a value of 0, 1, or 2 and then added up)
  - Heart Rate
  - Respiratory effort
  - Muscle tone
  - Reflex irritability
  - Color
- 90% of neonates have Apgar scores of 7-10 and require no further intervention. They usually have the following characteristics and can be admitted to the level 1 newborn nursery:
  - GA >35 weeks, spontaneous breathing/crying, good muscle tone, and pink color

# Ophthalmia Neonatorum

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- **Erythromycin ophthalmic ointment** (0.5%) is applied as prophylaxis against ophthalmia neonatorum, caused by a gonococcal infection that can lead to sight-threatening gonococcal ophthalmia (conjunctivitis)
- Applied as a 1cm ribbon in each eye **within two hours** of birth
- Principle side effect is **chemical conjunctivitis** (non-infectious) which appears within the first 24 hours of age and **self-resolves** by 48 hours (most often seen after silver nitrate application)
- This is **NOT** effective in preventing neonatal chlamydial conjunctivitis

# Vitamin K Deficiency Bleeding (VKDB)

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- Previously referred to as “hemorrhagic disease of the newborn”
- Prophylactic **Vitamin K1** (phytonadione) is given to newborns shortly after birth
- A single **IM** dose of Vitamin K (0.5mg) has been shown to be **more effective** in preventing late-onset VKDB (defined as VKDB between 2 and 12 weeks of age) when compared with **oral** vitamin K regimens
- The rate of **parental refusal** of newborn Vitamin K is approximately 0.6%, so we need to **counsel** regarding potential dire consequences:
  - Intestinal hemorrhage
  - Intracranial hemorrhage with subsequent neurodevelopmental effects

# Hepatitis B Vaccination

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- Universal vaccination of newborns **regardless** of maternal hepatitis B status is recommended
- First dose given within 24 hours of delivery
- Infants of HBsAg-positive mothers should receive **HepB vaccine + HepB immunoglobulin** within 12 hours of age
- Important to address **anti-vaccination** argument that if mother is negative, than why does the child need the vaccination? Emphasize the **public health concept** of protecting other babies from the illness!

# Screenings

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- **Hearing:** universal newborn hearing screening recommended to detect infants with hearing loss
- **Metabolic and Genetic Disorders:** All states require newborn screening for disorders that are threatening to life or long-term health, and for which early intervention has been shown to improve outcomes. Blood is collected between 24 and 48 hours of life as the CA newborn screen
- **Critical Congenital Heart Disease (CCHD)** – done using pulse oximetry. Infant's SpO<sub>2</sub> is measured in the right hand (preductal) **and** either foot (postductal). Postductal measurement of SpO<sub>2</sub> is important because defects with right-to-left shunting of desaturated blood through the ductus arteriosus will not be detected with only preductal measurement

# Feeding

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- Infants should be fed early and frequently to avoid hypoglycemia
- Breastfed infants should be fed **as soon as possible** after delivery, preferably in the delivery room. They should receive at least **8-12 feeds per day** during the newborn hospitalization.
  - Rooming-in, skin-to-skin, frequent demand feedings and lactation support all important
- Formula fed infants should be offered standard **19-20 kcal/oz iron-containing** formula. Fed on demand, but the duration between feedings **should not exceed four hours** and volumes should be at least **0.5 to 1oz** (15ml-30ml) per feed
- Term infants may lose up to 10% of their BW in the first few days of life and regain their BW by 10-14 days
- Glucose screening only with risk factors such as: GA<37 weeks, LGA, SGA, IDM

# Sources

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