Newborn Assessment

Newborn assessment consists of a comprehensive review of the neonate within 2 hours after delivery. Within 1- and 5-minutes of birth, an APGAR scoring considering the newborn's heart rate, respiratory rate, muscle tone, reflexes, and skin color is completed. A gestational age assessment is performed. The umbilical cord is checked for 2 arteries and 1 vein. The anterior and posterior fontanels are assessed and expected to close as the infant grows. Newborn measurements include birth weight, head circumference, and body length. Antibiotic eye prophylaxis and intramuscular vitamin K are administered within 1 hour of birth. Keeping the infant warm is critical since neonates lack sufficient fat stores to maintain temperature. After birth, an identification bracelet is placed on the infant's foot and thumb prints are collected.



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APGAR
Virginia APGAR
The purpose of the APGAR test is to briefly determine if the infant requires immediate medical care. The infant's APGAR score is obtained 1- and 5-minutes after birth. Assessment findings to consider include the neonate's heart rate, respiratory effort, muscle tone, reflex, and color. For each assessment criteria, the infant is given a score of 0, 1, or 2. The total sum of the five scores determines the neonate's APGAR score. The infant with a score of 3 and below may require immediate medical attention. An APGAR score between 4-6 is considered fairly low and warrants further assessment while a score above 7 is considered normal.

Umbilical Cord
Umbilical Cord
The umbilical cord determines fetal circulation during pregnancy. After the cord is clamped and cut, a blood sample is collected into a specimen tube for further assessment. Newborn cord blood determines the newborn's bilirubin levels, blood gases, blood sugar level, blood type, complete blood count, and platelet count.

2 Arteries 1 Vein
2 Archery-arteries and 1 Vine-vein
After the umbilical cord is cut, assess the stump for two arteries and one vein. The umbilical vein supplies the fetus with oxygenated blood while the umbilical arteries carry nutrient-depleted blood back to the placenta.

Eye Prophylaxis
Eye with Purple-axes
To protect the newborn from bacterial infections during delivery, newborn eye prophylaxis is administered within 1 hour of birth. Eye drops or an ointment containing antibiotic medication is applied to the newborn's eyes. Erythromycin ointment is commonly used.

Fontanels
Fountain
Fontanels are soft membranous gaps between cranial bones of infants. Since the brain expands faster than the surrounding bone can grow, fontanels allow the brain to expand. Clinical assessment of the fontanel can assist in determining hydration status of the newborn, as a sunken fontanel in addition to other clinical findings (e.g. sunken eyes, lethargy) can lead to suspicion of infantile dehydration. The diamond-shaped anterior fontanel closes by 18 months while the triangle-shaped posterior fontanel closes between 2-4 months.

Vitamin K Injection (Phytonadione)
Viking (K) King with Syringe
Vitamin K is necessary for proper blood clotting (refer to the Picmonic on "Vitamin K1 (Phytonadione)"). Since newborns are unable to synthesize vitamin K until a few weeks after birth, they are at increased risk of bleeding. Phytonadione (Aqua-Mephyton) is a form of vitamin K administered in infants within 1 hour of birth. The medication is administered as an intramuscular injection of 0.5-1.0 mg.

Gestational Age Assessment (GAA)
GAA score
Assessment of the newborn's gestational age and birth weight, helps determine if the newborn is appropriate for gestational age (AGA), small for gestational age (SGA), or large for gestational age (LGA). The New Ballard Score is used to measure maturity and focuses on neuromuscular maturity (posture, square

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window [wrist], arm recoil, popliteal angle, scarf sign, heel to ear) and physical maturity (skin, lanugo, plantar surface, breast, ear/eye, genitals [male], genitals [female]).

Measurements

Birth Weight

Weight-scale

The average weight of a newborn infant ranges between 5 lbs 8 oz and 8 lbs 13 oz. Newborn babies lose between 5-10% of their birth weight shortly after birth as they lose fluid and pass meconium. Expect the newborn to regain the weight within 10 days of birth.

Head Circumference

Head Circumference

The average newborn head circumference is between 33-35.5 cm (13-14 inches). Head circumference is usually 2 cm larger than chest circumference.

Length

Length

The average body length of the newborn is between 45-53 cm (19-21 inches) long.

Considerations

Keep Warm

Warm-fire

Newborns lack the fat stores to maintain thermoregulation. After delivery, keeping the newborn warm is critical in preventing cold stress leading to complications. Immediately after delivery, the infant may be placed on the mother's abdomen and covered with a warm, dry blanket. The newborn may also be placed in a pre-warmed crib or radiant warmer to maintain adequate body temperature. To prevent heat loss, the infant's head is covered with a cap.

ID Bands

ID Band

Shortly after delivery, matching identification bracelets are placed on the infant and parents to maintain identity and prevent abduction. The newborn's identification band is placed on the ankle. In addition, footprints or identification photos are taken shortly after birth.

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