Subject: Gestational Age Assessment

Policy: An RN or LPN may perform a gestational age assessment of the neonate, between 1-4 hours of age, utilizing the Ballard Scoring System.

Purpose: A series of physical characteristics and neuromuscular maturity scales designed to accurately define gestational age of the neonate.

Equipment List:
Newborn maturity rating and classification form, pen, pencil.

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| 1. Wash hands and glove. | 1a. To prevent cross contamination  
b. Gloves to be worn when handling newborn before admission bath for universal precautions. |
| 2. Using 2 identifiers, identify correct infant. Place infant in supine position. | 4. You are noting the amount of flexion or extension of infant’s extremities. |
| 3. Scores patient by placing an X in the appropriate square under the neuromuscular maturity and physical maturity categories. | 5. The angle formed at the wrist is measured. |
| 4. Posture: Observe infant’s posture with infant lying in supine position in a quiet state. | 6. This tests flexion development. This assessment is best elicited after the first hour of birth. Deep sleep and fatigue decreases arm recoil. Assessment of arm should be done bilaterally to rule out brachial palsy. |
| 5. Square Window (wrist): Elicit by flexing the baby’s hand toward the ventral forearm until resistance is felt. | 7a. Be sure to keep pelvis flat on bed.  
b. This assessment may not be accurate in infants with breech presentation until resolution of leg positioning. |
| 6. Arm Recoil: While the baby is in supine position, completely flex both elbows and hold for 5 sec., then extend arms down at baby’s side and release them. The angle and speed of arm recoil is noted. | |
| 7. Popliteal Angle: Lay infant flat on his back. Thigh is flexed onto abdomen, keeping pelvis flat on bed and place index finger of other hand behind the baby’s ankle to extend the lower leg until resistance is met. The angle formed is then measured. | |
8. Scarf Sign: Place infant supine. Take baby’s hand in your fingers and draw baby’s arm across neck towards opposite shoulder until resistance is met. Note location of elbow in relation to midline of chest.

9. Heel to Ear: Place baby in supine position. Grasp the infant’s foot at base of the toes with thumb and forefingers and gently draw the foot towards the ear on the same side until resistance is felt (or until foot slips out of fingers.) Both the proximity of the foot to the ear and the degree of knee extension are noted.

8. You may support the elbow while performing this assessment.

9a. You should allow the knee to bend during the assessment.

b. It is important to hold the buttocks down to keep from rolling baby.

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10. Skin: Observe skin for texture and opacity, thickness and color. Mark description that most closely matches your observations.

10. May also note amount of vernix present to assist in making this assessment.

11a. Lanugo is a fine hair covering that decreases with gestational age.

b. Lanugo disappears first from the face, then from the trunk and extremities.

c. Best place to observe is across back and shoulders.

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12. Plantar Surface: Observe amount of plantar creases by looking at soles of feet. Mark description that most accurately matches your the observations.

12a. This is a reliable indicator in first 12 hours of life.

b. Development of sole creases begins at top and proceeds to the heel.

c. Plantar creases vary with race and may be less developed at term in babies of African descent.

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13. Breast: The areola is observed and breast bud tissue is gently palpated by applying the fore finger and middle finger to the breast area and measuring in mm.

13a. Do not grasp firmly as this could cause trauma to breast tissue.

b. Factors affecting accuracy of this assessment may include LGA & SGA infants.

14. Eye/Ear: Observe ear for shape and palpate for amount of cartilage present. To test for recoil, hold top and bottom of the pinna together with forefinger and thumb and then release; or fold the pinna of the ear forward against the side of the head and release and observe for response.

14a. Eyelids open between 28-32 weeks gestation - if still fused infant < 28 weeks gestation.

b. Ears form and cartilage distribution develop with gestational age.


15a. Asymmetry of scrotum may indicate undescended testicle on one side.

b. Appearance depends in part on subcutaneous fat deposition.

c. The clitoris varies in size.

d. Vaginal tag (hymenal tag) may be present and disappears in several weeks.


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b. The clitoris varies in size.

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17. Upon completing assessment, add together the numbers scored and compare with maturity rating scale to determine gestational age.

18. Fill out scoring section of Newborn Maturity Rating and Classification form and sign.
19. On back side of Maturity Rating and Classification Form, convert weight to grams and length and head circumference to centimeters and plot on graph for weeks calculated.
20. Note where marks fell on chart. Classify baby as SGA, AGA or LGA based on where mark falls on weight chart, and sign.
21. If gestational age results are not within 2 weeks of the expected gestational age, repeat at 24 hours of age.

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