Development During Newborn 5th Lecture
"The Change", at the moment of birth a child goes from:

- Total Safety/Security – dependence upon others
- Automatic feeding – need to be nourished (constantly)
- Temperature controlled – hot/cold…
- Peaceful comfort – total chaos
- From the moment of birth, or very shortly after a baby has the ability to see, hear, smell and respond to his/her environment

dr. Shaban
Newborn or the neonatal period:

Is the period that last from birth through the first 28 days of life.

- Head CX: 34 to 35 cm
- Chest CX: 32 to 33 cm
- Weight: 2.5 to 4 Kg
- Length: 48 to 52 cm
Physical Development

• Physical assessment of newborn following delivery can be divided into four phases:
  1. The initial assessment using the Apgar scoring system.
  2. Transitional assessment during the period of reactivity.
  3. Assessment of gestational age.
1. Initial assessment: Apgar Scoring

- The most frequently used method to assess the newborn's immediate adjustment to extrauterine life.
- The score is based on observation of:
  1. Heart rate.
  2. Respiratory effort.
  4. Reflex irritability.
  5. Color.
- Each item is given a score of 0, 1, or 2.
- Evaluation of all five categories are made at 1 and 5 minutes after birth and repeated until the infant's condition stabilized.
### Table 1-2: The APGAR Score

<table>
<thead>
<tr>
<th>Sign</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Score 1 min</th>
<th>Score 5 min</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance (Skin color)</strong></td>
<td>Blue, pale</td>
<td>Body pink, extremities blue</td>
<td>Completely pink</td>
<td></td>
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<tr>
<td><strong>Pulse Rate (Heart rate)</strong></td>
<td>Absent</td>
<td>Below 100</td>
<td>Above 100</td>
<td></td>
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<tr>
<td><strong>Grimace (Irritability)</strong></td>
<td>No response</td>
<td>Grimace</td>
<td>Cries</td>
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<tr>
<td><strong>Activity (Muscle tone)</strong></td>
<td>Limp</td>
<td>Some flexion of extremities</td>
<td>Active motion</td>
<td></td>
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<tr>
<td><strong>Respiratory Effort</strong></td>
<td>Absent</td>
<td>Slow and irregular</td>
<td>Strong cry</td>
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</tbody>
</table>

- Score of 0 – 2 for each item, then totaled.
- Apgar Score 7 or higher no intervention
- Apgar Score 4 – 7 gentle rubbing, oxygen
- Apgar Score 0 – 4 resuscitation
Score This!

- Baby girl has a heart rate of 102, with slow, irregular respirations. She grimaces when stimulated. She has some flexion in her extremities and her skin color is pale.

- What is her Apgar Score?
2. Transitional assessment

Periods for reactivity

• First period of reactivity: For 6-8 hours after birth.
  1. Initial stage of alertness and activity: the first 30 minutes.
     - The infant is very alert, cries vigorously, very interest in the environment. Neonate's eyes are usually open: has a vigorous suck; this is an opportune time to begin breast-feeding.
     - Physiologically, the resp rate is high as 80 breath/min, crackles may be heard, heart rate reach 180 beat/min, bowel sound are active, mucus secretions are increased, and temp may decrease.

  2. Second stage: Lasts to 2-4 hours,
     - Heart and resp rate decrease, temp continues to fall, mucus production decreases, and urine or stool is usually not passed. The infant is in state of sleep and relative calm.
     - Undressing or bathing is avoided during this time
The second period of reactivity

• Begins when the infant awakes from this deep sleep. It lasts about 2-6 hours and
  - The infant is again alert and responsive,
  - Heart and resp rates increase.
  - The gag reflex is active gastric and respiratory secretions are increased,
  - Passage of meconium frequently occurs.
  - This period is usually over when the amount of respiratory mucus has decreased.

• After this stage is a period of stabilization of physiologic systems and a vacillating pattern of sleep and activity.
Classification of newborn by weight and gestational age

- Help in predict potential problems
  - **LBW**: <2500gm
  - **VLBW**: <1500gm
  - **ELBW**: <1000gm
- **Term**: completed 37 weeks gestation till 42 week
- **Premature**: less than 37 weeks gestation
- Infants born before term are classified as **preterm infants**, regardless of their birth weight. Infants born after the onset of week 42 of pregnancy are classified as **postterm**

Other Classification

- **SGA**: <10th centile
- **LGA**: >90th centile
- **AGA**: 10-90th centiles
- **IUGR**: describe less than optimal pattern of growth over a period of time *intrauterine*. It is possible to be IUGR not SGA
3. Clinical assessment of gestational age

- A frequently used method of determining gestational age is the simplifies Assessment of Gestational Age by Ballard (1979):
  - It assesses six external physical and six neuromuscular signs.
  - Each sign has a number score, and the cumulative score correlates with a maturity rating of from 20 to 44 weeks of gestation.

- **Physical Maturity**
  - **Skin**: thicker, less translucent, dry, peeling
  - **Lanugo**: fine non-pigmented hair which disappears gradually
  - **Plantar surface**: presence or absence of creases
  - **Breast**: areola development
  - **Ear cartilage**
  - **External genitalia**
# PHYSICAL CHARACTERISTICS:

<table>
<thead>
<tr>
<th>SIGN</th>
<th>SIGN SCORE</th>
<th>SCORE</th>
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<tbody>
<tr>
<td>Skin</td>
<td>-1 &lt;br&gt; Sticky, friable, transparent</td>
<td>0 &lt;br&gt; gelatinous, red, translucent</td>
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<tr>
<td>Lanugo</td>
<td>none</td>
<td>sparse</td>
</tr>
<tr>
<td>Plantar Surface</td>
<td>heel-toe 40-50mm: -1 &lt;br&gt; &lt;40mm: -2</td>
<td>&gt;50 mm no crease</td>
</tr>
<tr>
<td>Breast</td>
<td>imperceptable</td>
<td>barely perceptible</td>
</tr>
<tr>
<td>Eye / Ear</td>
<td>lids fused loosely: -1 &lt;br&gt; tightly: -2</td>
<td>lids open pinna flat stays folded</td>
</tr>
<tr>
<td>Genitals (Male)</td>
<td>scrotum flat, smooth</td>
<td>scrotum empty, faint rugae</td>
</tr>
<tr>
<td>Genitals (Female)</td>
<td>clitoris prominent &amp; labia flat</td>
<td>prominent clitoris &amp; small labia minora</td>
</tr>
<tr>
<td>TOTAL SCORE (NEUROMUSCULAR + PHYSICAL)</td>
<td>WEEKS</td>
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<td>--------------------------------------</td>
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<td>50</td>
<td>44</td>
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</table>

dr. Shaban
Assessment of gestational age
Neuromuscular Maturity

• Resting Posture: Hypertonic flexion of all extremities
• Square window
• Arm recoil
• Poplitteal angle
• Scarf sign
• Heel to ear
NEUROMUSCULAR MATURITY

• **Square window sign**- elicited by flexing the baby’s hand toward the ventral forearm until resistance is felt (the angle formed at the wrist is measured).
  – 90 degrees (32 wks or less) – score of 0
  – If angle greater than 90 degrees - score is 1

• **Arm recoil-arms** held with elbows flexed then pulled straight down to sides and released.
  – Rapid recoil-score of 4
  – Preterm no recoil-score of 0
  – Lower extremities are tested first.

• **Popliteal angle-thigh** flexed to abdomen, hips remain flat on table, lower leg is straightened until resistance met
  – If can be fully extended-score is 1
  – If angle is less than 90 degrees (measured angle behind knee) score of 5
  – angle is increased in the preterm infant.
NEUROMUSCULAR MATURITY

• **Scarf sign-arm** drawn across body toward other shoulder until resistance is met (measurement of elbow placement to midline)
  – If elbow did not reach midline-score of 4
  – If elbow goes past midline-score of -1

• **Heel to ear-hips** on table, foot is moved toward the ear on same side until resistance met
  – Foot position relative to knee extension is noted
  – Pre-term infant’s leg will remain straight & the foot will be near the ear
  – Closer to term more resistance will be felt and more flexion will be noted
<table>
<thead>
<tr>
<th>Posture</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square Window</td>
<td>90°</td>
<td>90°</td>
<td>60°</td>
<td>45°</td>
<td>30°</td>
<td>0°</td>
<td></td>
</tr>
<tr>
<td>Arm Recoil</td>
<td>180°</td>
<td>140-180°</td>
<td>110-140°</td>
<td>90-110°</td>
<td>&lt;90°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Politeal Angle</td>
<td>180°</td>
<td>160°</td>
<td>140°</td>
<td>120°</td>
<td>100°</td>
<td>90°</td>
<td></td>
</tr>
<tr>
<td>Scarf Sign</td>
<td></td>
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</tr>
<tr>
<td>Heel to Ear</td>
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</tbody>
</table>
New Ballard Scale for newborn maturity rating.

### Estimation of Gestational Age by Maturity Rating

#### Neuromuscular Maturity

<table>
<thead>
<tr>
<th></th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posture</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Square Window (wrist)</td>
<td></td>
<td>&gt; 90°</td>
<td>90°</td>
<td>60°</td>
<td>45°</td>
<td>30°</td>
<td>0°</td>
</tr>
<tr>
<td>Arm Recoil</td>
<td></td>
<td>160°</td>
<td>140° - 180°</td>
<td>110°</td>
<td>140°</td>
<td>90° - 110°</td>
<td>&lt; 90°</td>
</tr>
<tr>
<td>Popliteal Angle</td>
<td></td>
<td>180°</td>
<td>160°</td>
<td>140°</td>
<td>120°</td>
<td>100°</td>
<td>90°</td>
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<tr>
<td>Scarf Sign</td>
<td></td>
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<tr>
<td>Heel to Ear</td>
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</tr>
</tbody>
</table>

#### Physical Maturity

<table>
<thead>
<tr>
<th></th>
<th>sticky friable transparent</th>
<th>gelatinous red, translucent</th>
<th>smooth pink, visible veins</th>
<th>superficial peeling &amp;/or rash, few veins</th>
<th>cracking pale areas rare veins</th>
<th>parchment deep cracking no vessels</th>
<th>leathery cracked wrinkled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lanugo</td>
<td>none</td>
<td>sparse</td>
<td>abundant</td>
<td>thinning</td>
<td>bald areas</td>
<td>mostly bald</td>
<td></td>
</tr>
<tr>
<td>Plantar Surface</td>
<td>heel-toe 40-50 mm: -1 &lt;40 mm: -2</td>
<td>&gt;50 mm no crease</td>
<td>faint red marks</td>
<td>anterior transverse crease only</td>
<td>creases ant. 2/3</td>
<td>creases over entire sole</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>imperceptible</td>
<td>barely perceptible</td>
<td>flat areola no bud</td>
<td>stippled areola 1-2 mm bud</td>
<td>raised areola 3-4mm bud</td>
<td>full areola 5-10 mm bud</td>
<td></td>
</tr>
<tr>
<td>Eye/Ear</td>
<td>lids fused loosely: -1 tightly: -2</td>
<td>lids open pinna flat stays folded</td>
<td>sl. curved pinna; soft; slow recoil</td>
<td>well-curved pinna; soft but ready recoil</td>
<td>formed &amp; firm instant recoil</td>
<td>thick cartilage ear stiff</td>
<td></td>
</tr>
<tr>
<td>Genitals (male)</td>
<td>scrotum flat, smooth</td>
<td>scrotum empty faint rugae</td>
<td>testes in upper canal rare rugae</td>
<td>testes descending few rugae</td>
<td>testes down good rugae</td>
<td>testes pendulous deep rugae</td>
<td></td>
</tr>
<tr>
<td>Genitals (female)</td>
<td>clitoris prominent labia flat</td>
<td>prominent clitoris small labia minora</td>
<td>prominent clitoris enlarging minora</td>
<td>majora large minora equally prominent</td>
<td>majora large minora small</td>
<td>majora large &amp; minora small</td>
<td>majora cover clitoris &amp; minora</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MATURITY RATING</th>
<th>score</th>
<th>weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-10</td>
<td>20</td>
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<td>-5</td>
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</table>
A nurse has completed the gestational assessment on a newborn who weighs 3000 g, is 48 cm long, with a head circumference of 33 cm. His APGAR scores were 8 at one minute and 9 at five minutes. Other assessment data include skin dry and cracking, no lanugo, sole creases covering the whole heel, areola 3 mm, pinna soft with slow recoil, testes descended with moderate rugae. Reflex data include square window at 0°; arm recoil 100°; popliteal angle 100°; scarf sign yield elbow at midline; heel to ear 90°; and posture fully flexed. The parents express concerns over his small size.
# Gestational Age Assessment

<table>
<thead>
<tr>
<th>FINDING</th>
<th>0-36</th>
<th>37-38</th>
<th>39+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sole Creases</td>
<td>Ant trans only</td>
<td>Ant 2/3</td>
<td>Entire sole</td>
</tr>
<tr>
<td>Breast nodule</td>
<td>2mm diameter</td>
<td>4mm diameter</td>
<td>7mm diameter</td>
</tr>
<tr>
<td>Scalp Hair</td>
<td>Fine, fuzzy</td>
<td>Fine, fuzzy</td>
<td>Silky, coarse</td>
</tr>
<tr>
<td>Ear Lobe</td>
<td>Pliable, no cartilage</td>
<td>Some cartilage</td>
<td>Cartilage stiff and shaped</td>
</tr>
<tr>
<td>Testes &amp; scrotum</td>
<td>Testes in canal, few rugae</td>
<td>intermediate</td>
<td>Scrotum full, rugae covers</td>
</tr>
</tbody>
</table>
4. Physical assessment of the newborn

- Physical assessment of the newborn:
- General measurement.
- Vital signs.
- General appearance: Posture,
- Head-to-toe assessment: Skin, Head, Eyes, Ears, Nose, mouth and throat, neck, chest, lunge, heart, abdomen, female male genitalia, back and rectum, extremities.
- Neuromuscular system: Major reflexes evaluated.
Anthropometric Measurements

• Measure weight, length, and head circumference
  – helps determine if a baby's weight and measurements are normal for the number of weeks of pregnancy.
  – Small or underweight babies, as well as very large babies, may need special attention and care.
Normal Length

• Average range:
  – 18-22 inches (48-52 cm)
• Length (from top of head to the heel with the leg fully extended)
Head circumference

- Average range:
  - 33 to 35 cm (13-14 inches)
  - Normally, 2 cm larger than chest circumference

- Place tape measure above eyebrows and stretch around fullest part of occiput at posterior fontanele (repeat after molding and caput succedaneum are resolved)

- Under 31.7 cm is microcephaly; Over 36.8 cm hydrocephaly
Head Circumference

- **Caput succedaneum**
  - Edema of the scalp (presenting part)
  - Present at birth
  - Crosses suture lines
  - Resolves in a few days

- **Cephalohematoma**
  - Blood collection between periosteum and the skull
  - Often appears by 24 hours of life
  - Does not cross suture lines
  - Resolves slowly over several weeks
  - Increased risk of jaundice from additional blood breakdown

- **Molding**: Overlapping of skull bones caused by compression during labor and delivery
Chest Circumference

- Average range:
  - 30-33 cm (12-13 inches)
  - Normally, 2 cm smaller than head circumference

- Stretch tape measure around scapulae and over nipple line (at the nipple line)
Weight Measurement

Average between 2500g and 4000g at term

Newborn lose 5%-10% of weight during the first 10 days of life, because:
1- baby is no longer under the influence of the maternal hormones.
2- diuresis occur (increase in second to third day of life).
3- newborn pass stool.
4- Limited intake (especially B.F baby).

10 days is needed to regain WT. They typically gain 30g per week during the 1st month.
Vital Signs

- **Temperature** - range 36.5 to 37 axillary (97.7-98.6)
- Axillary vs Rectal about 0.2 to 0.5 difference
  Common variations
  - Crying may elevate temperature
  - Stabilizes in 8 to 10 hours after delivery

- **Heart rate** - range 120 to 160 beats per minute
  - Apical pulse for one minute
  Common variations
  - Heart rate range to 100 when sleeping to 180 when crying
  - Color pink with acrocyanosis
  - Heart rate may be irregular with crying

- **Respiration** - range 30 to 60 breaths per minute

- **Blood pressure** - not done routinely
  - At birth: 80/50 mmHg. By 10th day: 100/50.
Newborn lose heat by four mechanisms:

1- **convection**: heat flow from newborn to cooler air.
2- **radiation**: transfer heat from body to cold solid object not in contact with the body.
3- **evaporation**: conversion of liquid to vapor.
4- **conduction**: transfer heat from body to cold solid object in contact with the body.

**How newborn conserve heat?**

From the brown fat that available in the intrascapular, thorax and perineal area. It found in the mature newborn and produce heat by increasing metabolism.
Physical Assessment- Skin

- Skin color varies with ethnicity, pigment ↑ after birth
- Lanugo and vernix present (↑ with younger GA)
- Skin may be dry/peeling in term/post-term
  - Palms, soles, possibly cracks/crevices
- **Acrocyanosis** normal x 24 hours
- Erythema toxicum neonatorum (“flea bites”)
- Mongolian spots common
- Nevus flammeus “Stork bite”
- Milia
  - **Cyanosis** in trunk, due to cardiac problem
  - **Gray**: indicate infection, sepsis.
  - **Pale**: indicate anemia, tiredness, poor feeding.
  - **Yellow**: indicate hyperbilirubinemia, which lead to jaundice.
Erythema toxicum, acrocyanosis, milia and mongolian spots
Head and Face

- Shape of the head
- Fontanels? Sutures?

- **Anterior Fontanel**: Diamond in shape, 2-3 cm in width & 3-4 cm in length. Close at 12-18 months.

- **Posterior fontanel**: Triangular shape, 1 cm in length. Close at 2-3 months.

- Should be flat (not sunken or bulging); Open

- Nose? Mouth, lips, palate? Ears?
- Neck: Short; Skin folds; Muscles not strong enough to support head
Ears

• Assess placement
  • should align with canthus of eye and where ear attaches to the head
  • low set ears = renal or chromosomal problems

• Assess Appearance
  • Pinna of ear should have incuring
  • No skin tags

• Note Gestation
  • Rapid recoil
Chest & Heart

- Distress signs (Grunting, Tachypnea, Nasal flaring, asymmetric chest rise, supra-sternal, intercostal, sub costal retraction).

- Auscultate
  - Air entry, symmetry; crepitation; Murmur

- Abdomen
  - Inspection: Scaphoid; Distention; Abdominal wall defect (gastroschisis)
  - Palpation; *baby sucking and use warm hands*
    - Kidneys are normally palpable; Liver 2-3 cm; Spleen palpable; Umbilical vessels
    - Hernias; umbilical and inguinal
Because a newborn's intestine is sterile at birth. It takes about 5-8 days for flora to accumulate and for vitamin K to be synthesized. So, all newborn must take injection (IM) of vitamin K to prevent bleeding.

- **First stool**: is called meconium, it is black to green in color, odorless, sticky. formed from mucus, Vernix, lanugo, hormones, and carbohydrates that accumulated during intrauterine life.

- A newborn's stomach holds about 50 to 60 cc but has limited ability to digest fat because the pancreatic enzymes, lipase and amylase, remain deficient for the first few months of life.
Genitalia

- **Male**: Scrotum edematous, ruggae present; May be darkly pigmented; Palpate that both testes are descended; Penis small (2 cm), meatus at tip
- Do not attempt to retract foreskin
- Hypospadias, epispadias, Hydrocele
- **Female**: Maternal hormones may affect genitalia
  - Vulva edematous; May see vaginal discharge; Mucus; Blood tinged (pseudo menstruation)
  - Labia majora cover labia minora and clitoris
- **Anus**: Patency and location
The average first void is within the first 24 hours of life. Newborns who do not void within this time should be examined for the possibility of urethral stenosis or absent kidneys or ureters.

The kidneys of newborns do not concentrate urine well, making newborn urine usually light-colored and odorless.

The first void is about 15 ml & the daily urine output is in first 1-2 days: 30-60ml & by the end of the first week is about 300 ml.
Hip, Back and Extremities

• Erb’s palsy: extended arm and internal rotation with limited movement

• Digital abnormality: Syndactaly– fused digits
  • Polydactly– extra digit (often like a skin tag)

• Single palmar crease

• Hip dislocation
  – Female, breach
  – Hip abduction tests
    • Ortolani sign “clunk” of femur head in
    • Barlows sign “feeling the hip slip out of socket”

• Feet deformities

• Back and spine
  – abnormal curvature; Sinus tract, tuft of hair
Because newborns have difficulty forming antibodies against invading antigens until about 2 months of age.

Newborns are prone to infection at this age, so most immunizations are not given to infants younger than 2 months of age.

On the other hand, newborns are born with passive antibodies (IgG) from the mother.

In most instances, these include antibodies against poliomyelitis, measles, diphtheria, pertusis, chickenpox, rubella, and tetanus.
Motor Skills

- When cheek touched, turn to same side to suckle.

- Lifts head when prone (4-8 wk).

- Arms, fingers & legs move spontaneously from flexed to extended to flexed positions.

- Follows a moving light with eyes for a couple of seconds by one month. Tears do not develop until 2 to 4 weeks of age.
Crying

- Crying is the only means of communication & different cries mean different things.
- The hungry cry is recognized by soft moaning tones which, if ignored, will transform into a more vigorous cry.
- An angry cry can be vigorous from start. Babies will often turn quite red when expressing anger in cry.
- The cry of pain starts with a scream which is followed by a long pause for breath and then proceeds with a vigor.
- Newborn don’t cry “for attention”
Reflexes

- **Tonic Neck Reflex (FENCING)**
  - EXTENDS arm & leg on the side that the face points.
  - Flexes opposite arm & leg
  - 6 wks to 6 months

- **Moro (startle) Reflex**
- Birth to 4-6 months
Reflexes

- **Stepping Reflex**
- Disappear by the third month.

- **Palmar grasp**: disappears at 3 to 4 months

- **Plantar grasp**: disappears at 8 to 10 months
Rooting and Sucking Reflexes

• Birth to 3-4 months
• Birth to 10 months
Babinski and Palmer Grasping Reflex

- Babinski Reflex is (+)
- This is Normal
- Birth to after walking
- 12-18 months age
Senses

- **Touch** -- most significant in first few weeks
- **Vision** -- can see objects 8 - 12 inches from their eyes. They like faces the most, particularly the eyes. Follow objects. Like yellow and red.
- **Hearing** -- they will turn toward the sound of a voice. Alert more to a high pitched voice
- **Taste** -- can discriminate tastes. Sweet / non-sweet.
- **Smell** -- ability to smell increases over first few days of life. Smell mom’s breast milk.
Social & Emotional Development

• They feel happy when they feed, but they don’t know what “happy” is.

• Because babies feel but are not yet able to think, they will up your feelings and become unhappy themselves if you are unhappy.

• The human face is the 1st & most important shape that babies learn, & the sounds of human voices are very important to them, even though they don’t understand them.

• Babies need to feel safe, that someone is looking after them.
BASIC LEARNING PROCESSES IN NEWBORN

• Observational Learning –
  – Attend to a model and form a symbolic representation of model’s behavior

• Newborn imitation – possible at 7 days old, if part of behavioral repertoire
Daily Nursing Care

- Need for warmth and dry
- Need for protection from infection
- Need for food
- Need for attachment and loving
- Need for bathing and cord care
Remember

- Wash your hand prior to examination
- Examine on parent lap
- Leave diaper on
- Comfort measures such as pacifier or bottle.
- Talk softly
- Start with heart and lung sounds
- Ear and throat exam last
- Inspect, Inspect, Inspect, then Touch.
Signs that suggest developmental problem

• Baby does not usually calm; high pitched cry
• No social smile by 8 weeks
• Unusually floppy or stiff.
• Arm & leg on one side are different in muscle tone to the other.
• Unusually head control
• Fingers always held in tight fist
• Not watching faces by 2-3 months
• Not startling to noise.
Please take good care of me!

Ref:

2. Classes.kumc.edu/son/nurs350/assessment_findings_for_bj.htm

dr. Shaban