PRACTICAL 3 ASSESSMENT OF NEWBORN

Structure

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3.0 OBJECTIVES

After completing this practical, you should be able to:
• conduct physical examination of a new born;
• identify risk status of the neonate; and
• identify any congenital malformation.

3.1 INTRODUCTION

In first year you have already studied newborn assessment and care of neonate in Unit 13 (BSNL-103). The most important activity in care of new born is to perform physical examination. As you know that once an infant is born, he/she requires thorough skilled observation and examination to ensure a satisfactory adjustment to the extrauterine life. The physical assessment represents a screening procedure to identify likelihood of pathology in a specific system and identify any deviation or abnormality in that system. Awareness of the expected normal findings during the examination process helps recognize any deviation that may prevent the neonate from progressing uneventfully throughout the postnatal period. During physical assessment it is essential that you should not disturb infant so that a successful examination can be conducted. In this practical you will gain skill of carrying out accurate physical examination, identify risk status and record and report any abnormality, and take appropriate action. Before studying this practical it is essential for you to revise the structure and functions of various organs of human body. This will help you to come to conclusion of the findings. You also need to take the history of the newborn to arrive at correct diagnosis. This will help you to know the relationship of any abnormality of neonate with history of conception.

After studying this practical; perform a complete physical examination of an infant in the area that you are working and identify any deviation from normal in that infant. You have to learn this practical by doing.
3.2 PURPOSES AND PRECAUTIONS

The main purposes are:

i) To identify normal characteristics in the neonate

ii) To identify existing abnormalities, if any

iii) To carry out immediate action if there is any deviation

iv) To establish a baseline for future physiological changes

Precautions to be taken during the procedure of carrying out physical examination:

i) Keep your hands clean, dry and warm.

ii) Keep your nails short and free of nail polish.

iii) Do not expose the baby unnecessarily.

iv) Do not expose the baby to drafts and chills.

v) Examine the baby swiftly not more than 8 to 10 minutes.

vi) If neonate is irritable/crying during examination allow him to suck on a nipple.

vii) Inform mother about outcome of examination.

3.3 IMMEDIATE EXAMINATION AT BIRTH

Before carrying out examination collect the following articles and practice on a manikin. The articles are tape measure, weighing machine, thermometer, manikin etc.

3.3.1 Apgar Score

i) As soon as the baby is born, a quick visual inspection is done for which an apgar score is used. It is the best available indicator to tell the physiological status of the neonate and its ability to adjust to extrauterine life immediately.

ii) You need to check the respiratory rate, heart rate appearance and activity of the neonate. We shall review here the apgar scoring system in order to get a quick visual inspection of the neonate to help him to establish respiration.

iii) Record the apgar score of the neonate at 1 minute and 5 minutes after birth.

For reference use the apgar score chart as shown below:

<table>
<thead>
<tr>
<th>Sign</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Rate</td>
<td>100</td>
<td>Less than 100</td>
<td>Absent</td>
</tr>
<tr>
<td>Respiratory effort (cry)</td>
<td>Good strong</td>
<td>Weak irregular</td>
<td>No cry</td>
</tr>
</tbody>
</table>

Table 3.1: Apgar Score
<table>
<thead>
<tr>
<th>Sign</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity (Music tone)</td>
<td>Active movements</td>
<td>Some flexion of extremities</td>
<td>Limp, no response</td>
</tr>
<tr>
<td>Grimance (Response to nasal catheter)</td>
<td>Coughing/ sneezing</td>
<td>Facial grimace</td>
<td>No response</td>
</tr>
<tr>
<td>Appearance (Colour)</td>
<td>Completely pink</td>
<td>Body pink extremities-blue</td>
<td>Completely blue/pale</td>
</tr>
</tbody>
</table>

The low score at 1 minute indicates respiratory distress and the neonates need resuscitative measure. If score is less even after 5 minutes it indicates neurological damage due to hypoxia and brain damage.

**Score:** 7-10 indicate the neonate is normal

- 7-10: indicate the neonate is normal
- 4-6: moderate asphyxia
- 0-3: severe distress/asphyxia

If the score is moderately low i.e. 4-6 or if severe distress i.e. 0-3, the neonate requires immediate resuscitation. If the apgar score is good then go to the next step of assessment estimating the gestational age. If score is lower than 7 at 1 minute then repeat it again at 5 minutes and record.

After quick assessment of baby by evaluating him on the basis of apgar scoring at 1 minute and 5 minutes if you are convinced that the neonate is stable. Then you can assess the gestational age and neurological assessment and functions. Make sure that child is quiet during examination.

**Activity 1**

Write the apgar score in the space provided.

**Situation I:** Baby of Savita is born and appears pink, heart beat is 80 beats/min; had a weak cry, sneezed when catheter was touched to the *nares* and was flexing the extremities to some extent. Apgar score is ——

**Situation II:** Baby of Sita Devi was born pale and had a heart rate of 10 beats/min which was gradually dropping, did not cry and was lying very limp, did not respond to any stimuli. Apgar score of this baby is ———

### 3.3.2 Estimation of Gestational Age of Neonate

It is essential to estimate the gestational age of neonate as it ‘tell’ the maturity of the systems. Assessment of gestational age is important because perinatal morbidity and mortality are related to gestational age and birth weight. A newborn at each gestational age has its special problems. A premature infant may have certain serious problems like hyaline membrane disease, asphyxia and necrotizing enterocolitis.

It is essential as expected date of delivery and/or date of LMP are often inaccurate and neonatal weight, length and head circumference indicate the intraterine growth and development.

*Dubowitz and Dubowitz* and Ballard scoring are the most widely used scoring system to assess gestational age.

Dubowitz and Dubowitz scoring scale consists of eleven physical characteristics used in the first 24 hrs. and these are rated on a 4 point scale i.e. 0-4.

This clinical estimation of gestational age is accurate. There may be a difference of plus or minus 2 weeks.
The external characteristics assessed are breast size and nipple formation, skin texture and opacity, ear cartilage formation and firmness, plantar skin creases texture and hair distribution and genitalia. If this guideline is used as given in chart below a rough estimate of maturity can be made.

You may only focus on characteristic in premature and term babies (use transitional column as optional).

<table>
<thead>
<tr>
<th>Physical Characteristics</th>
<th>Premature</th>
<th>Transitional</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast tissue</td>
<td>Below 5 mm</td>
<td>6-10 mm</td>
<td>More than 10 mm may have breast milk</td>
</tr>
<tr>
<td>Nipple level formation</td>
<td>No areola</td>
<td>Areola present but not raised</td>
<td>Raised above skin</td>
</tr>
<tr>
<td>Skin texture and opacity</td>
<td>Abdominal veins clearly visible, including tributary venules</td>
<td>Veins and some tributaries seen</td>
<td>Some large veins distinctly seen</td>
</tr>
<tr>
<td>Ear form and cartilage</td>
<td>Soft, little or no cartilage</td>
<td>Antitragus cartilage perhaps cartilage in antihelix</td>
<td>Firm cartilage in tragus and helix</td>
</tr>
<tr>
<td>Hair texture and distribution</td>
<td>Wooly or fuzzy, very fine hair</td>
<td>Silky or coarser hair</td>
<td>Individual strands seen</td>
</tr>
<tr>
<td>Genitals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Scrotum empty, no rugae</td>
<td>Descending testes, few rugations Labia major a not covering labia minora.</td>
<td>Testes in canal scrotum rugated Clitoris and labia minora skin covered. Vaginal discharge or occasional bleeding seen at introitus</td>
</tr>
<tr>
<td>Female</td>
<td>Prominent labia and clitoris</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantar creases</td>
<td>Few if any</td>
<td>Creases upto the anterior 1/3 of sole</td>
<td>Entire sole creased</td>
</tr>
</tbody>
</table>

3.3.3 Neurological Assessment

The neurological assessment is made up of eight neurological criteria which have high significance with gestational age. (Fig. 3.2)

In order to perform the neurological assessment you need to develop good experience. Go through the following characteristics you will gain an idea of how it is to be performed then practice it at your work place.

i) Posture: Place the infant in supine and quiet. Observe the arm, hip and knee extension and flexion.

ii) Square window: The hand is flexed upon the wrist. Gentle pressure is exerted to obtain as much flexion as possible. The wrist should not be rotated. The square window is the angle formed between the hypothenar eminence and the anterior forearm.
iii) **Ankle dorsiflexion:** The foot is flexed in the ankle with gentle but sufficient pressure to obtain maximum flexion. The angle between the top of the foot and the front of the leg is measured.

iv) **Popliteal angle:** The infant is placed on his back, with the pelvis flat on a firm surface. The leg is first flexed on the thigh. Then flex the thigh fully with one hand. With the other hand extend the leg until the maximum angle is obtained.

v) **Heel to ear:** With the infant on his back, move the foot as near to the ipsilateral ear as possible without exerting force, the pelvis must be kept flat in a firm surface.

vi) **Scarf sign:** With the infant on his back, draw one of his arm across the neck, as far as possible to the opposite shoulder. The elbow can be lifted across the baby’s body.

vii) **Head lag:** The infant still lying on his back. Grasp each forearm just above the wrist and gently pull the infant to a sitting position. Observe the relation between the head and the trunk as the infant is raised forward beyond 90° from the bed’s surface.

viii) **Ventral suspension:** Lay the infant on his abdomen, with the chest resting on your hand. Then lift the infant perpendicularly from the examining surface. Score is based on the amount of caudal and cephalic muscle tone activity select a newborn and exhibited.

Using the table given below score the neurological status of the neonate.

Using these tables helps to know if the neonate is at term (38-41 weeks of gestation), transitional (35-38 weeks), premature (30-35 weeks) and below 30 weeks or very premature.

<table>
<thead>
<tr>
<th>Manoeuver</th>
<th>Very Premature</th>
<th>Premature</th>
<th>Transitional</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posture</td>
<td>Arm and legs</td>
<td>Slight</td>
<td>Legs abducted, arms flexed</td>
<td>Completely flexed</td>
</tr>
<tr>
<td></td>
<td>extended</td>
<td>moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>leg flexion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Square Window</td>
<td>90°</td>
<td>45° - 60°</td>
<td>30°</td>
<td>0°</td>
</tr>
<tr>
<td>Ankle</td>
<td>90°</td>
<td>45° - 75°</td>
<td>20°</td>
<td>0°</td>
</tr>
<tr>
<td>Dorsiflexion</td>
<td>180°</td>
<td>160° - 130°</td>
<td>110° - 90°</td>
<td>Less than 90°</td>
</tr>
<tr>
<td>Popliteal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heel to Ear</td>
<td>Easily and</td>
<td>Foot</td>
<td>Half way from 90° to face</td>
<td>90°</td>
</tr>
<tr>
<td></td>
<td>completely</td>
<td>almost to</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>touching ear</td>
<td>face</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scarf Sign</td>
<td>Elbow to</td>
<td>Elbow</td>
<td>Elbow to</td>
<td>Elbow unable to</td>
</tr>
<tr>
<td></td>
<td>opposite</td>
<td>beyond</td>
<td>midline</td>
<td>reach midline</td>
</tr>
<tr>
<td></td>
<td>axilla</td>
<td>midline thorax</td>
<td>midline</td>
<td></td>
</tr>
<tr>
<td>Head Lag</td>
<td>No head</td>
<td>Little</td>
<td>Head in same</td>
<td>Head held</td>
</tr>
<tr>
<td></td>
<td>support</td>
<td>head support</td>
<td>plane as body</td>
<td>forward</td>
</tr>
<tr>
<td>Ventral</td>
<td>Complete</td>
<td>Slight</td>
<td>Moderate</td>
<td>Considerable</td>
</tr>
<tr>
<td>Suspension</td>
<td>hypotonia</td>
<td>caudal tone</td>
<td>caudal tone</td>
<td>cephalic tone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cephalic tone</td>
<td>cephalic tone</td>
<td></td>
</tr>
</tbody>
</table>
Ballard scoring system: New Ballard Scale for newborn maturity rating assesses six external physical and six neuromuscular characteristics.

It can be used with newborns as young as 20 weeks gestation. Each sign has a number score and the cumulative score correlates with maturity rating from 26-44 weeks of gestation.

**Physical Maturity**

![Physical Maturity Table](image)

**Neuromuscular Maturity**

![Neuromuscular Maturity Table](image)

Fig. 3.1: Newborn maturity rating and classification (Scoring system adapted from Ballard et al., in Singh 1999)

**Activity**

Select a premature and a term neonate. Using the new Ballard scale assess the gestational age of neonates.

**3.3.4 Neurological Function**

Assessment of the neurological function helps to identify any neurological disorder.
The following areas are tested.

i) State of alertness.

ii) Posture — rule out opisthotonus, obligate flexion of thumb and frog’s leg position of hip and thighs.

iii) Muscle strength.

iv) Muscle tone — rule out abnormal tone i.e. less flexor tone in arms than in legs, generalized hyptonia or extensor hypertonus.

v) Spontaneous and elicited muscle movements.

vi) Cranial nerves — check by assessing reflexes.

vii) Reflexes.

viii) Autonomic nervous system.

3.3.5 General and Specific Examination

Here, you shall practice for taking measurement and parameters.

Check all parameters of the neonates such as:

Take temperature and the normal level will be, 37°C ± 0.5°C

Count heart rate — normal heart rate is 120-140 beats/minute

Count respiratory rate — normal rate is 40-60 breaths/minute

Physical Measurements

Weight

Check weight on an infant weighing machine. Weight of the neonate is 2.8-3.5 kg with an average weight of 2.5 kg.

When taking weight take precaution that the weighing scale is not chipped, is clear and covered with a thin cloth or paper. A baby weighing less than 2.5 kg. is a low birth weight baby.

Length

Use tape measure to assess crown heel length.

Normal length is 50 cm.

*Head circumference* — 33-35.5 cm. (13-14 inches)

*Chest circumference* — 30.5-33 cm. (12-13 inches) i.e. 1 ½ cm. less than head circumference.

Then assess the colour, cry, size, posture and skin.

Colour: Report and record following changes:

If the skin is pink — then it is normal.

*Pallor with increased* heart rate indicates anemia.

*Pallor with decreased* heart rate indicates asphyxia or congenital heart disease.

*Pale/generalized grey* colour indicates acidosis.
Pale and mottled — hyperthermia or sepsis blue, extremities but body is pink.

Acrocynosis — exposed to cold environment.

Generalized cyanosis — Cardiac or lung disease e.g. hyaline membrane disease.

Looks red or has plethora — Polycythemia.

Harlequin colour — normal colour on one side and red on the other side.

Generalized petechiae — Platelet function abnormality.

Ecchymosis — when pressure is applied colour does not come back, it is indicative of bleeding into the skin.

Yellow discolouration — jaundice.

Cry — Report and record if the new born cried after birth immediately. This indicates establishment of lung function i.e. if the cry was loud and vigorous. But if there is weak wimpering, feeble cry it indicates low birth weight or a premature baby, high pitched and shrill cry indicates meningeal irritation and hoarse cry indicates vocal cord paralysis, hypothyroidism, trauma or hypopharynx. In hyaline membrane disease cry will be grunty.

After assessment of colour and cry you assess the activity and posture.

Activity — Check for the spontaneous and symmetrical movement.

If the child is drawing up and stretching his legs, clenching and unclenching the fist, moving his arms and may sucking the finger. This indicates good activity level.

— If flaccid, floppy or having convulsions. This indicates CNS damage.

— Asymmetrical movement suggest birth trauma.

— Lack of activity or crying suggest abnormality.

Skin — Smooth, velvety and compared to rose petals and good skin turgor indicates normal skin.

Lanugo — Fine hair on the body.

— Check for vernix distribution all over body and in skin folds as baby comes to term, vernix decrease.

— Peeling of skin occurs in the first 2-4 weeks of life if seen at birth, which is indicative of post term infant.

Specific physical examination includes head to foot examination.

Head — Check for size, shape or fontanelles, caput, or any other abnormality.

— Fontanel — anterior fontanel is diamond shaped having size of 2.5 – 4.5 cms. It closes after 18 months, Posterior fontanel is triangular in shape and has size of 0.5 – 1 cm. or less than ½" at its widest part. It closes 3-4 weeks after birth.

— Head size — check for hydrocephalous, meningitis or meningomyelocele. Rule out anencephaly anencephalocele, over riding of suture due to excessive moulding.
**Eyes** – Check for conjunctivitis, epicanthal folds, and observe the inner canthus of both eyes. Look for squint, nystagmus, trauma, lacrimal duct obstruction, corneal opacity, congenital cataract and for pupillary reaction to light (blinking reflex).

**Ear** – Check the shape and position of ear; normally ear should be in line with the eyes.

  - Check for any accessory lobules.
  - If lowset ears it indicates Down’s syndrome.
  - Make sound near the side of the head, see if baby makes any sound or cry. This indicates normal hearing of the baby.

**Neck** – Inspect and palpate the neck for any mass, check if neck is short, and webbed which is indicative of Turner’s syndrome. Palpate posteriorly along cervical spine; laterally over sternomastoid and trapezius muscle check for thyroid gland.

  - Check for torticollis i.e. spasmodic, unilateral contraction of neck muscle resulting in head tilting to one side. Palpate lymph nodes in the neck or post auricular area. Also check range of motion of the neck.

**Nose** – Check if it is symmetrical.

  - Check for flaring of nares which is indicative of respiratory distress and depressed nose bridge which is indicative of Down’s syndrome – for this, compare with other signs of Down’s syndrome to confirm.

**Mouth** – Inspect and palpate the lips, gums, tongue, palate and oropharynx.

  - Rule out cleft lip and palate, size of chin if small and receding it shows micrognathia indicative of Pierri Robin’s syndrome to be confirmed if associated with small head and pigmi appearance.

  - Check for tongue tie and teeth eruption.

  - Check for Aglossia and hypoglossia, it may be associated with other abnormality.

**Chest** – Observe for retraction of the intercostal muscle which is indicative of severe respiratory distress (a sign of hyaline membrane disease).

  - Inspect the breast for size, symmetry, colour, turgor and discharge.

  - Auscultate the chest for adequate air entry in both the lungs; colour is a very good indicator of lung function and provides information of tissue oxygenation and also cardiac condition.

  - Check the respiratory rate, if it is elevated then it is abnormal. Initially till infant is stabilized respiratory rate will fluctuate.

  - Check for the heart sound; if there is any murmur or extra beat, observe if infant becomes cyanotic when he cries.
Now how can you assess respiratory distress in a new born is given in table below:

Assessment of respiratory function by physical examination in neonate (Silverman and Andreson)

<table>
<thead>
<tr>
<th>Table 3.4: Assessment of Respiratory Distress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation Criteria</td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>Chest lag</td>
</tr>
<tr>
<td>Synchronized movement</td>
</tr>
<tr>
<td>Lag on inspiration</td>
</tr>
<tr>
<td>Asynchronous</td>
</tr>
<tr>
<td>Intercostal retraction</td>
</tr>
<tr>
<td>No retraction</td>
</tr>
<tr>
<td>Marked</td>
</tr>
<tr>
<td>Xiphoid retraction</td>
</tr>
<tr>
<td>No retraction</td>
</tr>
<tr>
<td>Marked</td>
</tr>
<tr>
<td>Expiratory grunt ear</td>
</tr>
<tr>
<td>Not heard</td>
</tr>
<tr>
<td>Heart with naked ear</td>
</tr>
<tr>
<td>Dilation of nares</td>
</tr>
<tr>
<td>Not seen</td>
</tr>
<tr>
<td>Minimal</td>
</tr>
</tbody>
</table>

**Abdomen**

- check the contour of the abdomen; normally it should be soft, symmetrical, slightly round and moves in synchronously with chest
- in premature neonate abdomen will be distended because of poor muscle tone
- flat flabby “Pan Cake” like abdomen is abnormal and is associated with decreased muscle tone in neonates with drug or neurological depression
- if the abdomen is concave, it is indicative of diaphragmatic hernia and on ascultation bowel sounds are heard in the chest, heart sound is shifted to right and respiratory distress is seen
- check for exomphalos/omphalocele which is protrusion of the intestinal organs outside the abdomen
- check the umbilical cord which is composed of Whartons jelly and consist of 1 umbilical vein and 2 umbilical arteries
- palpate and check for enlargement of any organs namely liver, spleen or any lump
- check for inguinal hernia when infant is relaxed and/or crying
- check for pulsation of the femoral artery and observe if is equal in both sides of the organ
- palpate for any lymphnode enlargement in the groin

**Genitals**

- check (in female), if labia majora covers labia minora. In premature infant labia minora is not covered fully by labia majora.
- check for discharge from vagina and pseudomenstruation
• check the size and shape of clitoris
• in male check the scrotum for rugae, palpate and see if testes have descended
• check the prepuce for retraction without any problem
• check the urethral opening to rule out epispadias
• check the shaft of the penis
• rule out congenital hydrocele, inguinal hernia and hydrocele by flashing light into the scrotum

If ambiguous genitalia then inform the parents of uncertainty of sex and a further examination is required.

**Rectum**

• check for anal patency and passage of meconium and observe whether meconium is passed or not. Confirm its patency then pass a catheter or gloved finger
• check if meconium is passed from any abnormal opening
• rule out fistula and laxity of anal muscle tone

**Back**

• check for normal curvature, mongolian spot on the sacrum
• observe for gross abnormality like spina bifida in the most common site that is lumbosacral

**Extremities**

• check the range of motion; supernumery digits, fusion of digits, presence of creases in the foot, check for fracture or dislocation
• rule out congenital dislocation of the hip. This can be seen-on flexion of the leg. It will appear short on affected side due to shortening of femur

### 3.3.6 Reflexes

It is used to assess the neurobehavioural status.

**Rooting reflex** — Being a primitive reflex, if cheek is rubbed, the infant will turn his head into that direction of stimuli.

**Sucking reflex** — Develops at 32-36 weeks of gestation if sucking reflex is poor it indicates the baby is premature or there may be some difficulty in swallowing.

**Moro's reflex/startle reflex** — It can be assessed in two ways:

• The baby should be held supine over the right hand and arm. The flexed head is suddenly allowed to drop by about 30°. A Positive response consists of rapid abduction and extension of upper limbs and opening of hands followed by slower adduction and flexion or embrace equivalent.
• Place newborn on a firm surface make a loud sound by banging the examination table. The limbs will extend and then flex.

This reflex is useful to evaluate the alertness, muscle tone and hearing of the baby.
This reflex should be assessed last, as the infant will start crying.

**Stepping/dancing reflex** — Place the child in standing position near the table; the feet will touch the table and flex alternately by both legs giving an appearance as if the baby is dancing. It disappears by 1-2 months.

**Doll’s eye reflex** — Turn the head of the infant. The eyes move in the opposite direction. It disappears once the child is able to focus.

**Tonic neck reflex** — When infants; head is quickly turned to one side, the extremities on that side extend and those on opposite side will flex.

**Grasping reflex** — Put your finger near the child’s palm; the child closes its finger around it. If finger is placed near the toe they curl around the finger.

**Babinski reflex** — When a stimuli is given to the plantar surface. Stroke the sole of the foot beginning at the heel. Stroke upward along lateral aspect of the sole then move finger across ball of foot. There is dorsiflexion of the large toe with fanning of other toes.

After the complete examination record the findings accurately.

**Activity**

Select a newborn baby and carry out detailed physical examination and record the findings.

**Guideline for Assessment of Normal Newborn**

**Identification Data**

- Name of baby:
- Name of mother:
- Name of father:
- LMP
- EDD

**Nature of delivery:**

**Criteria of Assessment**

**General Appearance** — Posture, Colour, Cry, Activity

**Vital signs** — Temperature
- Heart rate
- Respiratory rate

**Physical measurements** — Weight
- Length
- Head circumference
- Chest circumference

**Skin

**Lanugo**
Head to toe examination.

(Physical characteristics)

Head
Eyes
Ears
Neck
Nose
Mouth
Chest
Abdomen
Genitals
Rectum
Back
Extremities

<table>
<thead>
<tr>
<th>Reflexes (Neurological characteristics)</th>
<th>Technique of Assessment</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rooting Reflex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sucking reflex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moro’s reflex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stepping/dancing reflex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doll’s eye reflex</td>
<td></td>
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<td>Tonic neck reflex</td>
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<td>Grasping reflex</td>
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<tr>
<td>Babinski’s reflex</td>
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Interpretation of findings and identification of Nursing diagnosis

Assessment of Gestational age of low birth weight baby

Identification data
Name of the newborn:
Name of mother:
Name of Father:
Age of mother:
Parity
LMP
EDD
Assessment of physical maturity using Ballard Scale

Assessment of Neurological maturity using Ballard scale

Score: 

Gestational age in weeks:

3.4 LET US SUM UP

Physical examination and assessment of the neonates helps to identify risk status and smooth adaptation to the extrauterine life. When conducting physical examination it is essential to know the infant’s history.

If you have any doubt or trouble with the findings and you are not sure, repeat the examination or counter check it with another person.

Doing a physical examination and assessing of the risk status of neonate is not enough. The finding should be accurately and systematically documented as the information is valuable for both immediate and long term care.

As soon as the infant is born; do a quick assessment after the baby is dried, (if required) of secretions, sucked and tactile stimuli is given to initiate respiration.

i) Check the apgar score at 1 and 5 minutes.

   After infant’s condition is stabilized start a more systematic examination.

ii) Conduct a general and specific examination.

iii) Check all parameters and measurements.

iv) Assess the gestational age and neurological status.

v) Do a complete head to foot examination.

vi) Check all reflexes of the neonate.

vii) Record the finding accurately.

Having studied this section it will help you to successfully carry out the examination.