

LOW BIRTH WEIGHT / PRETERM BABIES: CAUSES AND CHALLENGES

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LOW BIRTH WEIGHT (LBW) BABY : A Neonate whose weight is less than 2500 gm at birth irrespective of gestational age is a low birth weight baby.

CHARACTERISTICS:

All body parameters are low in LBW baby as compared to normal baby.

- **WEIGHT** : Less than 2500 gram
- **LENGTH** : Less than 47 cm
- **HEAD CIRCUMFERENCE** : Less than 33 cm
- **CHEST CIRCUMFERENCE** : Less than head circumference by 3 cm
(it is 2 cm in term new born)



LOW BIRTH WEIGHT BABIES

NORMAL BABY

SOURCE: <https://www.google.com/search?q=low+birth+weight+babies>

LOW BIRTH WEIGHT BABIES:

- ” Poor nutritional status of mother
- ” Underweight mother
 - Short stature < 140 cm
 - Hypertension, toxemia, anemia during pregnancy
 - Multiple pregnancies
 - Chronic malaria / chronic illness.
 - Tobacco and drug abuse

OR PREMATURE BABY: A neonate born before completion of 37 weeks of gestation.

CAUSES OF PRETERM BABY:

- “ Low maternal weight
- “ Teenage pregnancy
- “ Multiple pregnancy
- “ Previous preterm baby birth
- “ Induced premature delivery
- “ Unknown Cause

“ Head is large in proportion to the body.

- Ears are soft and flat due to undeveloped cartilage.**
- Chest is small, have weak thorax muscles.**
- Poor development of lung tissue.**
- Cough and gag reflexes may be weak or absent.**
- Nasal passages are extremely narrow and are easily injured.**
- Retina of eye is immature.**
- Female genitalia: Labia minora is not covered by labia majora.**

” Male genitalia: testicles may be in the abdomen.

- Urine scanty and infringement for few days, less ability to concentrate urine, does not excrete drugs well.**
- Sole of the feet has one or two transverse creases .**

Identification: Preterm LBW

Ear Cartilage



SOURCE: <https://www.google.com/search?q=preterm+baby+features&tbm>

LOW BIRTH WEIGHT / PRETERM BABIES

- **Birth Asphyxia** : Inability of a new born to establish regular spontaneous respiration within 30 seconds of birth is called birth asphyxia.
- “ **Neonatal Jaundice**: Due to Immaturity of liver enzymes, blood bilirubin level increases . If the newborn has suffered from birth asphyxia and feeding is delayed, then high bilirubin levels can also affect brain in LBW newborns.
- “ **Anemia** : Due to poor iron stores.

Hypothermia is defined as body temperature below
36.5°C to 37.5°C.

It may be mild, moderate or severe:

- ❑ Mild hypothermia : 36°C to 36.4°C
 - ❑ Moderate hypothermia : 36.0°C to 32.0°C
 - ❑ Severe Hypothermia : 32.0°C and below
- ❖ Due to **immaturity of heat regulating centre** in the brain and **lack of brown fat**, hypothermia is More common in LBW and preterm babies.

Indication of hypothermia:

- Feet are warm and pink : thermal comfort
- Feet are cold and abdomen is warm: cold stress
- Feet and abdomen are cold : Hypothermia

blems :

- ✓ **The coordination of sucking and swallowing reflexes is not well developed in newborn weighing less than 1800 grams or born before 34 weeks gestational age.**
- ✓ **This results in aspiration and regurgitation of feed.**
- ✓ **Breast feeding is not normally possible for the LBW / Preterm babies.**

An important cause of neonatal morbidity and mortality in LBW / Preterm babies.

Theses babies are more susceptible to infection.

Reasons are:

- **Low level of antibodies**
- **Low immunity**
- **Humid and warm atmosphere**
- **Contaminated hands of caregiver**
- **Excessive handling of the baby**

Difficulties : In LBW / Preterm babies,

- **lung tissue is poorly developed**
- **respiratory muscles are weak**
- **respiratory centre is poorly developed**

This may result in respiratory distress syndrome characterized by increased respiratory rate greater than 60/min and in-drawing of chest (recession) and expiratory grunt (sound after expiration).

LBW / Preterm babies may develop hypoglycaemia

due to

- Less glycogen store in their liver and
- Reduced subcutaneous fat stores
- Delayed feeding
- birth asphyxia
- Respiratory difficulty
- Jitteriness, lethargy and poor feeding are the most common

features associated with it.

Intraventricular Haemorrhage : Preterm infants have immature vascular bed around brain ventricles. These delicate vessels may rupture and cause intra-ventricular haemorrhage.

- **Retinopathy of Prematurity:** Eyes of preterm infants are not mature and can be damaged by abnormal growth of blood vessels in the retina.

This condition is usually more severe in very premature babies and may result in blindness if excess oxygen is given.



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