



Prematurity & Low Birth Weight

Dr. Hina Sattar

M.B;B.S (K.E), FCPS (Pediatrics)

Assistant Professor

Rawalpindi Medical University



Prematurity, LBW and IUGR

Management

Learning Objectives

Risk factors

Complications

Low birth weight LBW

Birth weight of < 2500 g

Preterm

< 37 weeks of gestation</p>

IUGR

• birth weight < 10th centile for gestational age

Appropriate for gestational age AGA

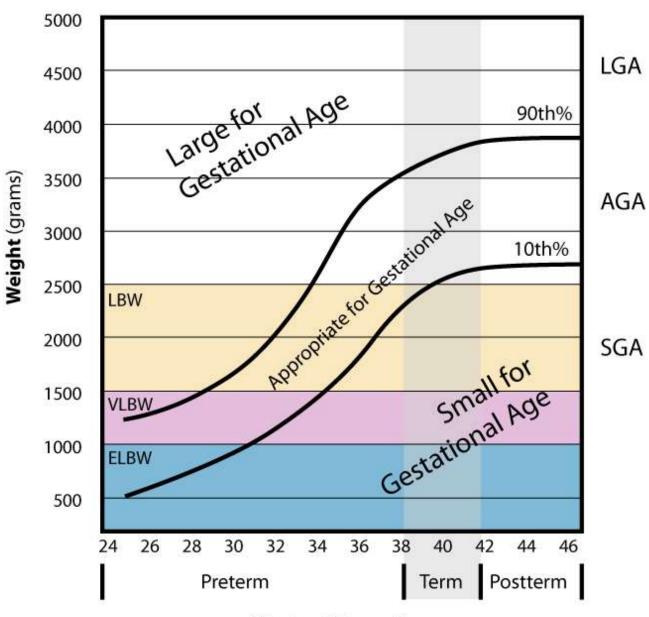
 Birth weight between 90th and 10th centile for gestational age

Large for gestational age LGA

• Birth weight >90th centile for gestational age

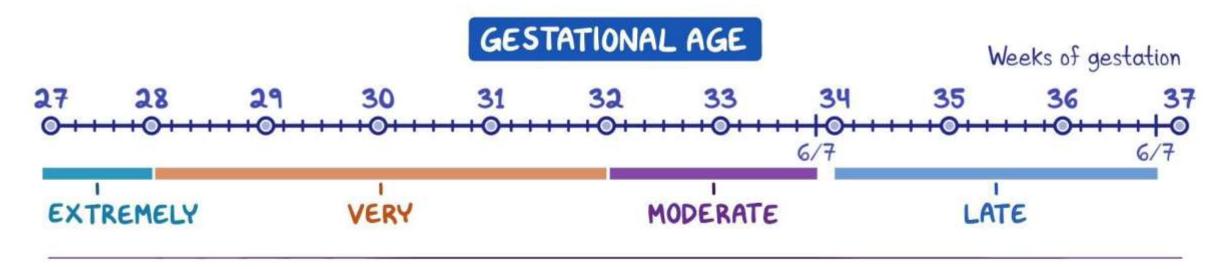
Small for gestational age SGA

• Birth weight <10th centile for gestational age



Weeks of Gestation

PRETERM INFANT: Before 37 COMPLETED WEEKS of GESTATION



BIRTH WEIGHT



LOW: < 2500 g

VERY LOW: < 1500 g

EXTREMELY LOW: < 1000 g

Ballard Scoring

Six parameters each:

Neuromuscular maturity

Physical maturity

Neuromuscular maturity

	-1	0	1	2	3	4	5
Posture		∞=	∞=	\ll	新	剑门	
Square window (wrist)	>90°	r 90°	١, 60,	N 45°	J 30°	٥٠	
Arm recoil		180°	140-180	110-140	90-110°	<90°	
Popliteal angle	ර්ඨ ₁₈₀	æ _{160°}	æ} 140°	æ 120°	کل 100°	ф°	യ്<‱
Scart sign	-8-	-8-	-8	-8	-8	-8	
Heel to ear	æ	8	æ	æ	₩,	æ	

Physical maturity

Skin	Sticky friable, transparent	Gelatinous, red, translucent	Smooth, pink, visible veins	Superficial peeling &/or rash, few veins	Cracking, pale areas, rare veins	Parchment, deep cracking, no vessels
Lanugo	None	Sparse	Abundant	Thinning	Baid areas	Mostly bald
Plantar surface	Heel-toe 40-50 mm: -1 <40 mm: -2	>50 mm no crease	Faint red marks	Anterior transverse crease only	Creases ant. 2/3	Creases over entire sole
Breast	Imperceptible	Barely perceptible	Flat areola, no bud	Stippled areola, 1–2 mm bud	Raised areola, 3–4 mm bud	Full areola, 5–10 mm bud
Eye/ear	Lids fused loosely: -1 tightly: -2	Lids open pinna flat stays folded	Sl.curved pinna: soft: slow recoil	Well-curve pinna: soft but ready recoil	Formed & firm, instant recoil	Thick cartilage, ear stiff
Genitals male	Scrotum flat, smooth	Scrotum empty, faint rugae	Testes in upper canal, rare rugae	Testes descending, few rugae	Testes down, good rugae	Testes pendulous, deep rugae
Genitals female	Clitoris prominent, labia flat	Prominent clitoris, small labia minora	Prominent clitoris, enlarging minora	Majora & minora equally prominent	Majora large, minora small	Majora cover clitoris & minora

7 Maturity rating

Score	Weeks
-10	20
-5	22
0	24
5	26
10	28
15	30
20	32
25	34
30	36
35	38
40	40
45	42
50	44

Quick gestational age assessment

	36 wks & earlier	37-38 wks	39 wks & beyond	
Creases in sole of feet	One or 2 transverse creases posterior ³ / ₄ of sole smooth	Multiple creases; anterior 2/3 of heel smooth	Entire sole, including heel covered with creases	
Breast nodule	2mm	4mm	7mm	
Scalp hair	Fine & wooly; fuzzy	Fine & wooly; fuzzy	Coarse & silky; each hair single stranded	
Earlobe	No cartilage	Moderate amount of cartilage	Stiff ear lobe with thick cartilage	
Testes & scrotum	Testes partially descended; scrotum small with few rugae	Testes fully descended; scrotum normal size with prominent rugae	Testes fully descended; scrotum normal size with prominent rugae	



Prevalence of Prematurity and LBW in Pakistan

18-21% Premature in different studies as compared to 7% worldwide

>30% LBW one of the highest in the world (16% worldwide)

High neonatal mortality rate 58/1000 live births

Risk factors for preterm birth

Previous history of preterm birth

Age: Adolescent or older mother

Lifestyle factors: Smoking, excess alcohol, recreational drugs, excess physical work or activity

Multiple pregnancies: Twins or more

Infections: E.g. urinary tract, malaria, HIV, syphilis, bacterial vaginosis

Chronic conditions: E.g. diabetes, hypertension, anaemia, asthma, thyroid disease

Nutritional status: Undernutrition, obesity

Some conditions might require health provider-initiated preterm birth

Maternal health and pregnancy complications: E.g. cervical incompetence, pre-eclampsia, complications such as uterine rupture

Maternal psychological health: E.g. depression, violence against the woman

Foetal health: E.g. growth restriction

Complications of Prematurity & LBW

Respiratory apnea, respiratory distress syndrome,

bronchopulmonary dysplasia

Neurologic perinatal depression, intraventricular hemorrhage,

periventricular leukomalacia

Cardiovascular hypotension, patent ductus arteriosus

Hematologic anemia, hyperbilirubinemia

Nutritional osteopenia (rickets), poor weight gain

Gastrointestinal necrotizing enterocolitis

Metabolic hypo, hyperglycemia, hypocalcemia

Renal acute renal failure, fluid and electrolyte imbalance

Temperature regulation hypo, hyperthermia

Immunologic neonatal infection/sepsis

Ophthalmologic retinopathy of prematurity

Management

Temperature and humidity

Fluid & Electrolyte

Glucose

Calcium

Nutrition

Respiratory support

Patent Ductus Arteriosus PDA

Infections



together for the babies born too soon...











Discharge Criteria

- *When the infant is feeding orally
- *Maintaining body temperature
- *Apnea°/ Bradycardia°
- *Weight > 1800g & gaining weight 30g/d

World Prematurity Day

November 17



Around the world 1 in 10 babies are born prematurely

