

Preterm and Post-term Newborns

Chapter 13

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- LGA
- Large for Gestational Age
- Over 8.8 pounds (4000 g)
- SGA
- Small for Gestational Age
- (Can be low birthweight)



Davis HW: Zitelli and Davis' atlas of pediatric physical diagnosis, ed 6, St Louis,

GESTATIONAL AGE ASSESSMENT

- Two parts
 - External physical characteristics
 - Neurological characteristics

Maternal conditions, such as pre-eclampsia, diabetes, and maternal analgesics and anesthesia may impact certain components of gestational assessment



MATURATIONAL ASSESSMENT OF GESTATIONAL AGE (New Ballard Score)

NEUROMUSCULAR MATURITY						RECORD SCORE HERE	SCORE
	1	2	3	4	5		
POSTURE							
SCULPTURE (HANDS)							
ARM RECOIL							
TOE PLANTER AREA							
SCARP SIGN							
HEEL TOE RATIO							
TOTAL NEUROMUSCULAR MATURITY SCORE							

PHYSICAL MATURITY						RECORD SCORE HERE	SCORE
	1	2	3	4	5		
SKIN	erythematous, translucent	pinkish, translucent	pinkish, translucent	pinkish, translucent	pinkish, translucent		
LANUGO	fine	coarse	coarse	coarse	coarse		
PLANTAR LATEX	fine, 1-2 mm	fine, 1-2 mm	fine, 1-2 mm	fine, 1-2 mm	fine, 1-2 mm		
BREAST	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm		
CLIT & VAG	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm		
GENITALS (MALE)	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm		
GENITALS (FEMALE)	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm	small, 1-2 mm		
TOTAL PHYSICAL MATURITY SCORE							

MATURITY RATING	
SCORE	WEEKS
1-10	20
11-15	22
16-20	24
21-25	26
26-30	28
31-35	30
36-40	32
41-45	34
46-50	36
51-55	38
56-60	40

A. In term _____
 B. Premature _____
 C. In term _____

From Ballard JL, Khoury J, Wedig K, et al: New Ballard score expanded to include extremely premature infants. *J Pediatr* 119:417-423, 1991.

Preterm Newborn

Gestation > 37 weeks



- Causes – Preterm Birth

- Multiple births
- Maternal Illness
- Hazards of Pregnancy
- Poverty
- Smoking
- Alcohol
- Drug use

- Prenatal care a MUST!

Are you at risk for premature birth?

These three risk factors make you most likely to give birth early:



Prior Premature Birth



Multiple Pregnancy



Cervical and Uterine Problems

Some other risk factors include:



Family History
Someone in your family has a premature baby or if you were born prematurely



Maternal Health Conditions
High blood pressure, preeclampsia, diabetes, blood clotting disorders



Weight
Weight problems before pregnancy and on gaining enough weight during pregnancy



Smoking
Women who smoke during pregnancy



Maternal Age
Pregnant women younger than 17 or older than 35



Stress
Prolonged and high levels of stress

#FightForPreemiesPH

If you have concerns about whether

Also applies to low - birthweight

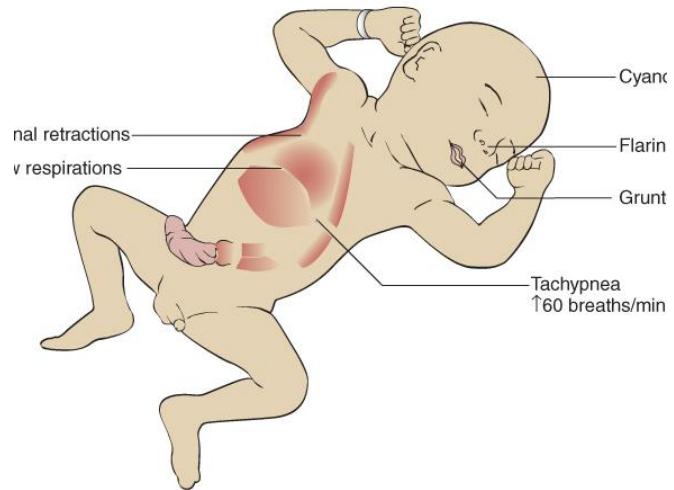
- Preterm Characteristics
 - Skin: Transparent & loose
 - Superficial Veins (abdomen & scalp)
 - Lack of SQ fat
 - Lanugo on forehead, shoulders, arms
 - Vernix caseosa abundant
 - Extremities appear short
 - Few creases on soles of feet
 - Protruding abdomen



C and D from Zittel BL, Davis HW. Zittel and Davis' atlas of pediatric physical diagnosis, ed 6. St Louis, 2012, Saunders. E from Murray SS, McKinney ES: Foundations of maternal-newborn and women's health nursing, ed 6, St Louis, 2014, Saunders.

Respiratory

- Causes
- Oxygen
- RDS
- Surfactant
- Vital Signs / Cluster Care
- Apnea / Bradycardia
- Neonatal Hypoxia
 - Pulse oximetry



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Temperature

- Causes
- Cold Stress
- Skin Probe
- Radiant Warmer



Cold Stress



Cold Stress

- Preterm newborn is vulnerable
- Symptoms
 - decreased skin temp
 - increased R rate with apnea
 - Bradycardia
 - Mottling
 - lethargy
- Interventions
 - place infant under radiant warmer or in incubator adjusted so infant is kept at 97 to 98 degrees.


Hypoglycemia

- Causes
- Signs
- Glucose monitoring
- Feedings



Hypoglycemia

Signs and Symptoms



Signs and Symptoms of Hypoglycaemia in Babies

** Lethargy	** Floppiness / Poor Body Tone
** Poor Feeding	** Seizures / Eye Rolling
** Fast Heart rate	** Pale / Bluish colour to skin
** Jitteriness	** Hypoglycaemia with clinical signs is a medical emergency.
** Irregular Body Temperature	** Early detection / treatment of Hyperinsulinism prevents long term neurological damage.
** Apnoea	
** Weak / High Pitched Cry	
** Restlessness / Irritability	

#ThinkHyperinsulinism @CHCharityUK
www.hyperinsulinism.co.uk

Bleeding

- Causes
- Nursing Care
 - Monitor neurological status
 - Bulging fontanelles, lethargy, poor feeding, and seizures (ICP)
 - Slight Fowler's position
 - Cluster care



- Nutrition
 - Causes
 - Small stomach capacity
 - Immature sphincter muscles
 - Immature suck and swallow
 - Inadequate store of nutrients
 - Feedings
 - Gavage
- Problem: Immature Kidneys
 - Causes
 - Nursing Care
 - I&O
 - Assess fontanelles, turgor, and weight



Jaundice

- Causes
 - Immature liver
- Nursing Care
 - Observe infant's skin, sclera, and mucous membranes for jaundice
 - Phototherapy

At risk for brain damage



Nursing Goals for Preterm Infant Box 13-1



Special Needs

Nutrition
Feedings
Bowel Sounds
Meconium
Supplemental
Vitamins

Thermoregulation
Incubator / Warmer
Kangaroo Care

Positioning: side-lying
or prone

Prognosis & Family
Reaction

Post term Infant

- Gestation > 42 weeks
- Must determine if EDC is truly post term
- After 42 weeks placenta loses ability to nourish the fetus

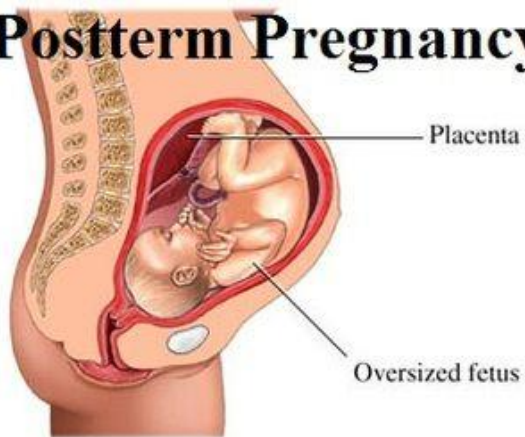


Post term Infant Characteristics

- Newborn emaciated
- Meconium stained
- Hair and nails long
- Dry peeling skin
- Creases cover soles
- Limited vernix and lanugo



Postterm Pregnancy



Nursing Care & Discharge Planning / Teaching

- Post-term Newborn Problems
 - *Asphyxia*
 - *Meconium aspiration*
 - *Poor nutritional status*
 - *Polycythemia*
 - *Difficult deliveries*
 - *Birth defects*
 - *Seizures*