

## Neonate at risk

### Pre-term infant - less than 36 weeks gestation

#### **Appearance**

- Wrinkled with blood vessels and bone structures showing
- Ears and nipples underdeveloped
- Lanugo present on face and body
- Head circumference large to body with small fontanel
- Harlequin sign- one half of body pale while other is red, either side to side or top to bottom
- Posture-relaxed with legs extended and hip abduction

#### **GI Responses**

- Weak sucking and swallowing respond may lead to aspiration
- Slow gastric emptying time

#### **Heat Regulation**

- Less Subcutaneous Fat and Brown Fat
- Slow circulation
- Immature CNS cannot regulate heat production, inadequate shiver response

#### **Respiratory Responses**

- Weak chest muscle may cause suprasternal retraction
- Decreased surfactant production may lead to atelectasis and cyanosis

### Low Birth Weight Infant

- Full term but weighs below 2500g (5 1/2 lbs)
- Less subcutaneous fat and brown fat
- May have trouble establishing respiration

### Meconium aspiration

- Hypoxic fetus passes meconium into the amniotic fluid and is aspirated into the lungs causing an obstruction and chemical pneumonitis
- Monitor infant for respiratory distress and sepsis

### Respiratory Distress Syndrome

- Deficiency in surfactant results in inadequate lung inflation and ventilation

#### At Risk

- Low birth weight infants
- Pre-term infants

#### Assessment

- Cyanosis
- Respiratory distress: Tachypnea, nasal flaring, grunting, and sternal retractions
- Respiratory acidosis

## **Cranial Injuries**

**Caput Succedaneum** - damage to scalp above the skull bone, swelling above and across the suture line- subside in a few days

**Cephal Hematoma** - swelling of the tissue between the bone and the periosteum. The hematoma does not cross the suture line and will resolve in time. (Weeks – months)

**Intracranial pressure** - Bleeding into the CNS due to trauma at birth, forceps birth prolonged labor, and breech extraction

## **TORCH**

### **Toxoplasmosis**

Source: cat feces (don't clean the litter box if you're pregnant), undercooked meat

Effect: hydrocephalus, intracranial calcifications

### **Other**

Includes: syphilis, gonorrhea, beta streptococcus, & hepatitis B

Syphilis → deaf, mental retardation, fetal death; treat with penicillin during pregnancy

Gonococcal conjunctivitis (ophthalmia neonatorum); treat with erythromycin in eyes at birth

Beta-hemolytic, group B Strep from vaginal vault during delivery → pneumonia, meningitis;

Treat

with gentamicin, ampicillin, penicillin

Hepatitis → high incidence of abortion or premature labor; high risk of infant developing liver cirrhosis or carcinoma

### **Rubella (German measles)**

Effect: deaf, encephalitis → mental & motor retardation, cardiac defects, ocular abnormalities

### **Cytomegalic inclusion disease**

Effect: hemolytic anemia, hydrocephalus, microcephalus, neonatal death

### **Herpes genitalis**

Effect: neonatal infection may lead to death or CNS involvement

## **Jaundice**

### **Pathological jaundice:** life threatening

Due to underlying problem such as blood antigen incompatibility (hemolytic disease of the newborn = erythroblastosis fetalis) or liver disorder

Onset within 1<sup>st</sup> 24 hours

Therapy: transfusion & treat cause

### **Physiological jaundice:** Manageable

Due to immature hepatic function

Onset after 1<sup>st</sup> 24 hours

Treat with phototherapy (bililights) or exposure to sunlight