Neonatal Complications



The purpose of this module is to help you identify and assess newborns for some of the more frequently seen neonatal complications. The content contained in this module is intended to provide an overview and does not include all complications you may encounter in your clinical setting.

Note to instructors:

This module provides information about some of the medications used in perinatal clinical practice. AWHONN believes that drug selection and dosage set forth in this presentation are in accordance with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check other information available in other published sources for each drug for potential changes in indications, dosages, and for added warnings, and precautions. This is particularly important when the recommended agent is a new or infrequently employed drug. In addition, appropriate medication use may depend on unique factors such as individual's health status, other medication use, and other factors which the professional must consider in clinical practice.



The objectives for this presentation are to:

• Describe characteristics of preterm, post term, small-for-gestational age (SGA), large-for-gestational age (LGA) infants

• Review maternal risk factors predisposing to premature and post mature birth, SGA & LGA infants

• Identify signs & symptoms of respiratory distress syndrome (RDS), transient tachypnea of the newborn (TTN) and meconium aspiration syndrome (MAS)

• Describe the pathophysiology of RDS, TTN & MAS



Objectives continued:

- •Identify infants at risk for the development of neonatal sepsis
- •Identify and describe the physiologic and developmental effects of maternal drug abuse on the neonate
- •Identify risk factors and complications in the infant of a diabetic mother

Silverman – Anderson Index			
FEATURE	SCORE 0	SCORE 1	SCORE 2
Chest Movement	Equal	Respiratory Lag	Seesaw Respiration
Intercostal Retraction	None	Minimal	Marked
Xiphoid Retraction	None	Minimal	Marked
Nasal Flaring	None	Minimal	Marked
Expiratory Grunt	None	Audible w/ stethoscope	Audible
4 ©2004 AWHONN			Association of Women's Health, Obstetric and Neomatul Nurses

Let's take a moment to review the **Silverman-Anderson Index** relative to your assessment of the neonates with suspected or diagnosed RDS. When an neonate is premature, or has other underlying pathology, expiratory grunting, retraction of the chest wall muscles and other signs of respiratory distress may be readily apparent. The Silverman – Anderson Index, commonly referred to as the Silverman retraction score, was developed as a systematic means of assessing newborn respiratory status, particularly when respiratory distress is suspected. **The parameters assessed by inspection or auscultation of the upper and lower chest and nares on a scale of 0, 1 or 2 using this system are** (Askin, 2001):

• **Chest movement:** Synchronized vs. minimal lag or sinking of the upper chest as the abdomen rises. In the most extreme instances, a seesaw-like movement of the chest and abdomen is observed and would be given a score of 2.

• Intercostal retractions: Retraction between the ribs is rated as none, minimal or marked.

• **Xiphoid retractions:** Similarly retraction below the xiphoid process are rated as none, minimal or marked.

• **Nasal flaring:** There should be no nasal flaring. Minimal flaring is scored 1 and marked flaring is scored 2.

• **Expiratory grunting:** Grunting that is audible with a stethoscope is scored 1, and grunting that is audible without using a stethoscope is scored 2.

As you can see on the slide, the higher the score, the more severe the respiratory distress.



The chest x-ray of an infant with RDS is characterized by atelectasis, air bronchograms, and a diffuse reticular-granular pattern commonly referred to as "ground glass". The chest x-ray may progress to a complete "white out" with severe disease. Practitioners should remember that Group B Strep pneumonia can have the same radiographic appearance as RDS. As such, all infants with respiratory distress should be considered for antibiotic therapy (Whitsett, Pryhuber, Rice, Warner & Wert, 1999).

Characteristics of RDS



This chest xray shows atelectasis, air bronchograms, and the diffuse reticular-granular pattern commonly referred to as "ground glass".