Neonatal Imaging and the Neonatal Chest

Objectives

- Understand common terms and modalities used in neonatal imaging
- Evaluate image quality and techniques of a chest radiograph and understand the importance of a patient’s positioning
- Distinguish the wide variations in the appearance of a normal neonatal chest radiograph and consider visible structures outside of the cardiopulmonary system
- Identify the location and correct positioning of lines and tubes on a neonatal chest radiograph
- Diagnose pathological findings on neonatal chest radiograph and differentiate normal from abnormal

Content Outline

1. Technique
2. Positioning
   A. Rotation
   B. Trajectory
3. Normal Chest Radiograph
4. Lung Volumes
   A. Hypoinflation
   B. Hyperinflation
5. Lines and Tubes
   A. Endotracheal tube
   B. Peripherally inserted central catheters
   C. Extracorporeal membrane oxygenation cannulae
6. The Periphery
7. Pathology
   A. Pneumothorax
   B. Pneumomediastinum
   C. Pulmonary interstitial emphysema
   D. Atelectasis
   E. Surfactant deficiency
   F. Bronchopulmonary dysplasia
   G. Pulmonary hemorrhage
   H. Transient tachypnea of the newborn
   I. Neonatal pneumonia
   J. Meconium aspiration syndrome
   K. Congenital heart disease
   L. Pulmonary edema
   M. Hypoplastic left heart syndrome
   N. Tetralogy of fallot
   O. Congenital diaphragmatic hernia
   P. Congenital pulmonary airway malformation
   Q. Pulmonary sequestration
   R. Congenital lobar over-inflation
   S. Bell shaped chest
   T. Esophageal atresia/Tracheo-esophageal fistula
   U. Chylothorax
   V. Thoracic neoplasm
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Reading Material Resources

Module NX2101: Neonatal Imaging and The Neonatal Chest is based on the chapter listed below. A copy is included with the module.

Introduction, Neonatal Imaging, Eklund, M.J., Hill, J.G., and Swift, C.C., The National Certification Corporation (NCC), Chicago, IL 2018

Chapter 1, Neonatal Imaging, Eklund, M.J., Hill, J.G., and Swift, C.C., The National Certification Corporation (NCC), Chicago, IL 2018