Objectives

- Review neonatal pharmacokinetics principles
- Identify neonatal physiological differences and how they affect drug disposition
- Explain how anesthetic drugs function in the neonate
- Discuss challenges facing clinicians in selecting and using antibiotics in neonates
- Summarize future drug development and evaluation for neonates

Content Outline

1. Neonatal Pharmacokinetics
   1.1 Absorption
   1.2 Distribution
   1.3 Metabolism
   1.4 Excretion

2. Analgesics and Anesthetic Drugs
   2.1 Mechanisms of action
   2.2 Side effects and efficacy

3. Anesthetics Drugs
   3.1 IV
   3.2 Inhalational
   3.3 Local

4. Challenges with Antibiotic Use in Neonates
   4.1 Understanding Neonatal Pharmacology
   4.2 Understanding Specific Characteristics of Neonatal Sepsis
   4.3 Understanding Antibiotic Pharmacodynamics
   4.4 Getting Doses Right
   4.5 Choosing the Right Empiric Treatment and Dosage Schedule
   4.6 Promoting Adapted Monitoring
   4.7 Promoting Drug Evaluation in Neonates
   4.8 Predicting Toxicity
   4.9 Developing Adapted Formulations for Neonates

5. Future Directions for Neonatal Drug Evaluation

Reading Material Resources

This continuing education module is based on the resources listed below.

The reading materials are in the form of PDF files and a web-link and can be accessed from the NCC online testing center once the module is purchased.

Neonatal Pharmacology, Skinner, Adam, Anaesthesia and Intensive Care Medicine, 12:3, 2010, pp 79-84