Neonatal Pharmacokinetics

Objectives

- Name and explain the four processes that comprise the basic principles of pharmacokinetics (PK)
- Describe the physiologic and common pathologic characteristics of the neonate with the potential for impact on drug dosing in this population
- Identify the most commonly used models for performing pharmacokinetic calculations
- Define pharmacodynamics (PD) and contrast the difference in relationships between PD and PK

Content Outline

1. Overview of Basic Pharmacokinetic Principles
   1.1 Absorption
   1.2 Distribution
   1.3 Metabolism
   1.4 Elimination

2. Effects of Body Composition & Organ Dysfunction on Pharmacokinetics

3. Pharmacokinetic Models & Calculations
   3.1 First-order kinetics
   3.2 Zero-order kinetics
   3.3 Calculations accounting for infusion time & multiple doses

4. Pharmacodynamics

Reading Material Resources

Module WB1943: Neonatal Pharmacokinetics is based on the resource listed below. A copy of the resource is included with the module.

Chapter 51 Pharmacokinetics in Neonatal Medicine, Wade K in Fanaroff and Martin’s Neonatal-Perinatal Medicine 10th ed. (2015), Saunders/Elsevier, 665-674