

## Principles of Drug Use During Lactation

### Objectives

- Review the principles of drug excretion and mechanisms of drug transfer during lactation
- Describe drug characteristics and pharmacokinetic action
- Identify factors that help predict potential drug toxicity in breastfeeding infants
- Summarize commonly used drugs during breastfeeding and their potential to transfer to breast milk and subsequent effects in the infant

### Content Outline

1. Principles of Drug Excretion/Transfer to Breast Milk
  - A. Alveolar subunit and breast milk production
  - B. Milk/plasma ratio
  - C. Active transport and other mechanisms of medications
2. Drug Characteristics and Pharmacokinetics
  - A. Molecular weight
  - B. Lipid and water solubility
  - C. Drug ionization and drug trapping
  - D. Volume of distribution
3. Drug Transfer from Breast Milk to the Infant
  - A. Absolute infant dose
  - B. Relative infant dose
4. Drug Toxicity Prediction
  - A. GI effects
  - B. Bioavailability
  - C. Infant risk factors
5. Commonly Used Drugs in Lactation and Their Effects on the Infant
  - A. Pain medications
  - B. Antibiotics
  - C. Antihypertensives
  - D. Antidepressants and other psychiatric drugs
  - E. Anticoagulants
  - F. Anticonvulsants
  - G. Reflux medications
  - H. Hormonal birth control
  - I. Steroids and immunosuppressants
  - j. Biological therapies, antineoplastics and radioactive compounds
  - K. Herbal therapies
  - L. Vaccines
  - M. Drugs of Abuse
    1. Alcohol
    2. Tobacco
    3. Marijuana
    4. Heroin and other street drugs
  - N. Drugs to Alter Milk Supply

## Reading Material Resources

**Module WB2415: Principles of Drug Use During Lactation** is based on the resources listed below. A copy of each resource is included with the module.

Chapter 20, Drug Transfer During Breastfeeding, Fetal and Neonatal Physiology, Polin, et al., Elsevier, 2022, 203-212

Chapter 44, Principles of Drug Use During Lactation, Fanaroff and Martin's Neonatal Perinatal Medicine, Martin, et al., Elsevier, 2020, 717-721