

Drug Allergies and Multidrug Interactions

Objectives

- Summarize the use of penicillin and other beta lactam drugs
- Outline the consequences of penicillin allergies
- Compare and contrast hypersensitivity reactions by Gell Coombs classification
- Describe the delabeling process for penicillin allergies
- Differentiate the different risk levels of penicillin allergies and their reactions and proscribed interventions
- Provide examples of nonoptimized medication therapies
- Review mechanisms behind multidrug interactions and pharmacogenomics
- Recap strategies to improve drug safety

Content Outline

1. Penicillin Allergy
 - A. Consequences
 1. Lack of adequate treatment
 2. Adverse reactions and drug resistance
 3. Financial cost
 - B. Types of Hypersensitivity
 1. Clinical reactions
 2. Onset
 3. Level of risk and assessment
 - C. Delabeling process
 1. History and risk stratification
 2. Penicillin challenge
 3. Skin testing
 4. Desensitization
2. Multidrug Interactions
 - A. Nonoptimized medication therapies
 - B. Mechanism behind multidrug interaction and drug safety
 1. Enzymatic actions of drug and their interactions
 2. Drug adherence improvement
 - C. Polypharmacy and improving patient outcomes
 - D. Pharmacogenomics-different responses to drugs
 - E. Drug safety

Reading Material Resources

Module WB2570: Drug Allergies and Multidrug Interactions is based on the resources listed below. A copy of each resource is included with the module.

Penicillin allergies, A Guide for NPs, Wrynn, Alexander, The Nurse Practitioner, Wolter Kluwer Health, Inc, Vol. 4, No 9, September 2022, 30-36

Multidrug Interactions: Why Do They Occur and How to Handle, Dow, et al., Clinical Therapeutics, Volume 45, No. 2, Elsevier, November 2, 2023, 99-105