

About the author

Geraldine Moses

Geraldine is senior drug information pharmacist for Mater Health Services in South Brisbane. Her daily challenge is ensuring the rational, safe and effective use of prescription, over-the counter and complementary medicines amongst both health professionals and the general public alike.



Geraldine has a strong commitment to pharmacy education through the Pharmaceutical Society of Australia, and as a visiting lecturer to the Pharmacy School at the University of Queensland and Optometry and Podiatry Schools at QUT, Kelvin Grove. She is a member of the National Drugs and Poisons Scheduling Committee and Veterans Affairs arm of the PBS. Geraldine is perhaps best known for her talkback show on ABC Radio (now in its eleventh year), and regular appearances on TV as a pharmacy spokesperson.

Geraldine leads a hectic life, but on weekends disappears into the western suburbs of Brisbane with her husband Mark and two cats, Prozac and Zolof.

Cases covered

The Cases covered support the tutorials and the interactive drug table.

Case 1: Absorption and iron.

Case 2: Absorption and the Pill dilemma

Case 3: Dynamics and warfarin.

Case 4: Metabolism & CYP.

Case 5: Kinetics – elimination.

Case 6: Dynamics – additive.

Case 7: Metabolism & CYP.

Case 8: Hypertension and moderate depression.

Sample of the tutorial

The Seven Tools

New drug interactions are discovered so frequently these days that you cannot rely on textbooks or the manufacturers information (e.g. MIMS) to be up to date. Providing one is familiar with the pharmacology of the drugs concerned and the basic mechanisms of *how* drugs interact, most interactions can be foreseen.

There are two mechanisms and five targets for drug interactions and these are 'the seven tools' for predicting practically all drug interactions.

(1) THE TWO MECHANISMS

The TWO **mechanisms** by which drugs interact are:

- pharmacokinetic
- pharmacodynamic

Pharmacokinetics is the study of how drugs move around the body, which is usually divided into the processes of absorption, distribution, metabolism and excretion. Pharmacokinetic interactions, therefore, are those that occur by interference with a drug's kinetics. Pharmacokinetic interactions result in altered concentrations of one or both of the interacting drugs.

Pharmacodynamics is the study of drug actions, which is usually interpreted in terms of physiological receptor sites. Pharmacodynamic interactions result in altered drug effects for one or both of the interactants.

(2) THE FIVE TARGETS

When drugs interact by one of the above mechanisms they can interact with one of the FIVE following targets:

- Other drugs, including herbals
- Diseases
- Laboratory tests
- Foods, and
- Pharmaceutical aspects

It is important to note that the range of drugs that interact has expanded beyond prescription drugs to include complementary and alternative medicines, including nutritional supplements.