

Learning Portal Lite: Interactions

This is a one-page summary; see the [full version online](#)

Drugs interact with other drugs, chemicals and foods. Pharmacists are experts at preventing, detecting and managing the potential adverse outcomes.

Mechanisms

Interactions occur by mechanisms involving absorption, metabolism, elimination and cell transport; others occur because of additive side effects (pharmacodynamics).

Predictions

Patients prescribed many medicines are at higher risk of interactions, as are people taking drugs with a narrow therapeutic range or those known to interact frequently. If you can't find out if a combination interacts, then looking at clearance mechanisms, similar drug combinations, and side effect profiles may help you make a prediction.

Cytochrome p450

This family of enzymes metabolises many drugs, especially these isoenzymes: CYP1A2, CYP2C9, CYP2D6, and CYP3A4. Some drugs make a given isoenzyme more active (inducers) others make them less active (inhibitors). Medicines can affect isoenzymes that metabolise them, or enzymes not involved in their own metabolism.

Managing interactions

Prescription screening, medicines reconciliation, and addressing polypharmacy all help to reduce the risk of interactions. Sometimes changing a drug can help to avoid an interaction, or a drug can temporarily be held, a dose may be reduced, or both continued and the patient monitored.

Talking to patients

Patients need to understand the potential consequences of an interaction, and the likelihood of it happening (theoretical, possible, probable). They also need to know what's being done to reduce their risk of harm.

Questions to ask

When confronted by a potential interaction, your questions should include:

- Which drugs are involved, what was started first, and what is the indication?
- What alternatives could be used? Has the interaction caused any problems for the patient yet?
- Who needs to know about changes to the prescription or monitoring the patient?

Information sources

SmPCs, Stockley's Drug Interactions, Micromedex or Lexicomp if you have access.