

 **Defining side effects, adverse effects, and allergies**

Side effects	Adverse effects or reactions	Allergies
The undesired effect that occurs when the medication is administered, regardless of the dose. Most side effects are expected and are independent of the dose. Some may be beneficial. Side effects often resolve on their own.	The unwanted and undesirable effects related to a drug. Some are dose-dependent, and some are unpredictable. Often requires treatment.	The reaction of the immune system to the drug. It is not dose dependent.

 **Type of liquids**

- Syrup:** A thick and sweet liquid used as a carrier for drugs or as a flavoring agent.
- Elixir:** Elixirs are clear liquid dosage forms containing sugar, water, and alcohol.
- Solution:** A clear liquid preparation used for internal or external applications.
- Emulsion:** A biphasic liquid dosage form where two or more liquids are mixed with the help of an emulsifier, e.g., an oil-in-water emulsion.
- Suspension:** Biphasic liquid forms in which fine solid particles are suspended in a liquid medium.
- Lotion:** A low to medium viscosity liquid dosage form applied over the skin.
- Enema:** A liquid dosage form that is inserted rectally.

 **Common inhibitors and inducers of Cyt P450 enzymes**

Inhibitors	Inducers
Cimetidine, amiodarone, erythromycin, ticlopidine, ciprofloxacin, omeprazole, fluconazole, bupropion, metoclopramide, quinidine, disulfiram, metronidazole, grapefruit juice, ritonavir, saquinavir	Carbamazepine, phenytoin, rifampin, phenobarbital, isoniazid, alcohol, tobacco, dexamethasone, prednisone
Need to lower the dose of a drug given concomitantly with any drug(s) in this group.	Need to increase the dose of a drug given concomitantly with any drug(s) in this group.

“ADME” principle for the levels of pharmacokinetic interactions

- A** for Absorption **D** for Distribution **M** for Metabolism **E** for Elimination