



Micromedex® Resource Guide

Introduction

IBM Micromedex® is a collection of databases and resources that provide useful information on the use of medicines. These include Drugdex, three Reproductive Risk Information databases, and an IV Compatibility database. This guide will explain each resource in turn.

Martindale is also available through this platform, however it should routinely be accessed through NHS Scotland's subscription through Medicines Complete for the most up to date information (See the Martindale resource guide).

How to access Micromedex®

- Go to www.micromedexsolutions.com
- Click on 'OpenAthens Login' under the 'Log in' field on the right hand side of the page
- Enter Athens username and password and click on 'login'
- Click on the black 'Micromedex' box
- You are now logged into Micromedex®, which gives you access to the databases described in this resource guide. See the instructions on the following pages for how to search for information in each database.

Micromedex® can also be accessed via the NHS Scotland Knowledge Network. Click on Micromedex® in the Medicines Information Resources section of the home page and follow the instructions above.

Drugdex®

Drugdex® is an American database of comprehensive, referenced drug monographs. Information in the monographs includes: adverse effects, drug interactions, pharmacokinetics, pregnancy and breastfeeding. It is important to select the '**In Depth Answers**' tab at the top of the monograph as this provides much more detailed information, otherwise it will default to 'Quick Answers'.

Each monograph is split into the following 7 main sections, some of the most useful types of information available are detailed below:

- **Dosing/Administration** – Information on adult and child doses in certain conditions, dose adjustments e.g. elderly, renal. The 'FDA uses' and 'Non-FDA uses' sections contain useful information regarding evidence for use in both licensed and unlicensed indications (though see note below).
- **Medication Safety** – Contraindications, precautions, adverse effects, drug interactions, pregnancy and lactation, IV compatibility (also see the IV section of this resource guide).
- **Mechanism of Action**

- **Pharmacokinetics** – may contain useful information about the onset, duration, absorption, distribution, metabolism and elimination of the drug which may not be readily available in other resources.
- **Patient Education**
- **Toxicology**
- **About.**

As Micromedex® is an American database the information on **dosage and licensed uses may not reflect UK practice**. Information is updated periodically and the date a monograph was last modified is annotated at the bottom of the “full document” version of the monograph.

The monographs may also have links to ‘Drug Consult’ documents which are summaries of a particular topic associated with the drug e.g. Review of systemic adverse effects associated with corticosteroids.

How to search Drugdex®

- Type the drug name into the box on the left hand side of the home page (‘keyword search’) and click the search symbol/hit return. e.g. simvastatin
- Select the correct drug salt / route of administration (if given the option)
- Click on ‘In-Depth Answers’ to access the Drugdex detailed evaluation
 - Navigate using the links on the left hand side to access a particular section such as Drug Interactions or Pharmacokinetics.
 - Or, to view the full document click on ‘View Full Document’

If available, there will be links to relevant ‘Drug Consult’ documents inserted into a particular section of the document/monograph, or there is a link on the right hand side of the page that shows all the ‘Drug Consult’ documents associated with the drug. A good example to demonstrate this is prednisolone. Alternatively, all Drug Consults can be browsed alphabetically. On the home page, under the ‘Resources’ menu, select ‘Drug Consults’.

On the right hand side of the page, ‘Related Results’, lists all the other locations in the Micromedex® database where the drug is mentioned e.g. Toxicology information (see below).

Examples of how to search Drugdex®

1. Can cimetidine be used to treat verrucas or warts?

- Type cimetidine into the search box.
- Click on cimetidine – oral. Click on ‘In-Depth Answers’.
- Click on ‘Non-FDA Uses’ in the ‘Dosing/Administration’ section on the left hand side of the page.
- Scroll down the different indications until you come to ‘verruca vulgaris’ - according to several reports, cimetidine is effective for cutaneous warts in children.

2. A patient has an allergy to morphine (pruritus) and needs an opioid for pain, would tramadol or dihydrocodeine be least likely cause a similar reaction.

- Type morphine into the search box.
- Click on Drug Consults under Related Results in the right hand side of the page.
- Select the consult required OPIOID ANALGESICS - CROSS ALLERGENICITY

Searching Tips

- Enter individual search terms or keywords

- Do not enter “near”, “and”, “or”, or any other Boolean search operator.

Test Exercises – see end of Resource Guide

Reproductive Risk Information Micromedex®

The NHS Scotland Athens password also provides access to the Toxicology section of Micromedex® which contains useful information about medication use in pregnancy and lactation. This is in addition to the pregnancy and lactation section of the Drugdex® monograph.

The Toxicology section lists up to three databases for each drug - Reprotox®, Shepard's and Teris. All three are referenced and updated periodically.

Reprotox® tends to contain the most detailed information. It is presented in sections from Experimental animal studies, Human pregnancy reports, Immunologic and developmental effects, to Lactation and Reproduction effects.

Shepard's is named after the author and tends to be briefer. Teris (The Teratogen Information System) is also fairly brief but also provides useful information to help assess the possible teratogenic risk of exposure to the drug.

How to search and access Reproductive Risk Information

- Log into Micromedex® as described previously, and search for your drug of interest. This takes you to the Drugdex® monograph.
- On the left hand side of the page under 'Related Results', click on 'Toxicology'.
- A 'pop up' page will appear. Scroll down and under 'Reproductive Risk Information' there are three headings: Reprotox, Shepard's and Teris, with corresponding links in blue, click to open the page.
 - To move between Reprotox, Shepard's and Teris, the last two steps need to be repeated.
- Close the pop up and return to the Home page to search for another drug.

Test Exercises – see end of Resource Guide

IV Compatibility Guide on Micromedex®

IBM Micromedex® also hosts IV compatibility information. This is from Trissel's™ 2 Clinical Pharmaceutics Database (Parenteral Compatibility) IV INDEX (information is from Baxter Healthcare Corporation).

The IV compatibility data on Micromedex® is additional to that in the Handbook of Injectable Medicines which is also commonly referred to as 'Trissel', though there is some overlap (a separate Resource Guide is available for the Handbook of Injectable Medicines/Trissel).

The IV Compatibility Guide on Micromedex® should only be used in addition to Trissel. You can search for compatibility between two drugs, or a drug and a solution. However, if more than two drugs are searched together, the results are displayed in drug pairs only. The information provided covers compatibility of the drug in solutions, at a Y-site, as an admixture, in a syringe and with TPN/TNA (Total nutrient admixtures). Monographs for the individual drugs can also be accessed and provides information such as pH, osmolarity, stability in certain containers/packaging, and storage conditions.

When using the IV Compatibility Guide bear in mind is that it is important to check that the concentrations quoted are comparable to the concentrations used in practice. The data is often specific to brands that are not necessarily available in the UK, and the diluent should also be checked for compatibility with each drug.

How to access and search the IV Compatibility Guide on Micromedex®

- Log into Micromedex® as described previously, and from the Home page and click on the 'IV Compatibility' tab.
- To select the drug or solution, start typing the drug/solution name in the appropriate box and select the correct option.
- Repeat the above step for all the drugs/solutions in question.
- Click 'View Compatibility'.
- From here there are various options depending on the type of information required, see examples below.

Examples of how to search IV Compatibility Guide on Micromedex®

1. Can furosemide injection be diluted in sodium chloride 0.9%?

- In the Drugs box, start typing Furosemide, and then select the correct term from the suggestions that automatically appear
- In the Solutions box, type Sodium Chloride. Ensure you select the correct strength from the suggestions.
- Click the 'View Compatibility' box.
- The results under 'Drug-Solution' state it is Compatible, with a green tick symbol.
- If you click on [NS \(Normal saline \(Sodium chloride 0.9%\)\)](#) it will show compatibility tables with detailed information where the concentration tested is stated, and under what parameters. Check whether this matches the concentration you have been asked about.
- You will also see it provides information on other possible diluents under Relevant Common Solution Results, e.g.; dextrose 5% in water.
- Click Furosemide on the left hand side of the screen, and the detailed IV Compatibility Product Information is shown.

2. Is there any compatibility information to support giving gentamicin (320mg in 100ml sodium chloride) and morphine 1mg/ml through the same Y-site?

- Type 'Gentamicin' into the Drugs box and select the correct term. Repeat for 'Morphine'.
- Click the 'View Compatibility' box.
- The results show that at a Y-site the combination is Compatible.
- Click the ['Gentamicin sulfate - Morphine sulfate'](#) to open up the compatibility tables.
- Scroll through the results and there are data to confirm compatibility of various concentrations of gentamicin with morphine.

Test Exercises

Drugdex

1) When ibuprofen is used as a painkiller what is the onset of action?

2) Has lamotrigine been associated with alopecia?

3) Can itraconazole be used to treat Bronchopulmonary Aspergillosis (ABPA), and at what dose? Is posaconazole an alternative, if so what dose should be used?

Reproductive Risk Information

4) Can mefloquine be used for malaria prevention during the 2nd trimester of pregnancy?

IV Compatibility Guide

5) Can co-amoxiclav be diluted in glucose 5%?

6) Are morphine and ketamine compatible at a Y-site?