Inner Compass Initiative's Key to Withdrawal-related Information in the FDA-approved Drug Label

This key explains various properties of psychiatric drugs that are important to understand for tapering and that may have safety implications for tapering. It also explains where this information may be found in the drug label. It is intended to be used in conjunction with our “Guide to the FDA-approved Drug Label” as a basis for building a “Drug Self-education Sheet”.

To build your Drug Self-education Sheet, transfer the title of each Topic onto one or more blank sheets of paper, leaving plenty of space underneath each topic to write in what you will learn about your drug.

Topic 1: Drug name

A brand-name drug is a drug that has been researched, developed, and marketed by a pharmaceutical company. A generic drug is typically—but not always—a non-brand, non-proprietary version of a drug that is brought to market after the patent on its brand-name version has expired and a pharmaceutical company no longer has a monopoly on the production of the drug’s active ingredient. The generic name is often the same as the common scientific name for the drug’s active ingredient. So, for example, the drug methylphenidate hydrochloride can be purchased under that generic name, or under U.S. brand names such as Ritalin or Concerta.

Why this is important for tapering:

Knowing the generic name of the active ingredient in a drug can help determine what other forms of the drug are available that may provide a wider range of taper options.

Where this information is commonly found in the drug label:

The brand name of a drug and/or the generic name are usually located right at the beginning of the drug label.

Topic 2: Bioequivalence

A drug may come in different forms (such as solid and liquid), formulations (such as modified-release and regular-release), and versions (brand-name and generic). "Bioequivalence" refers to the relative similarities or differences in the rate and extent of drug absorption in the body between different forms, formulations and versions of the same active drug.

Why this is important for tapering:

If planning to switch from one version, form or formulation of a drug to another prior to starting a taper, it is essential to determine what is the "equivalent dose" in that other version, form or formulation.

Where this information is commonly found in the drug label:

This information may be included in the "Dosage and Administration" section and/or under the "Clinical Pharmacology" section. Alternatively, try searching for the words "bioequivalence", "bioequivalent", "equivalent" or "equivalence".

Topic 3: How your drug is supplied by the manufacturer

A psychiatric drug "*dosage form*" is a particular mixture of active and inactive ingredients incorporated into a particular form such as an oral tablet or capsule, oral liquid, or intramuscular injection.

The "*dosage formulation*" of a psychiatric drug typically describes how its active ingredients are released. There are immediate-release or regular-release formulations in which the active drug is released promptly, and various types of modified-release formulations in which the release of the active drug is slowed, delayed or otherwise altered.

The "*dosage size*" is the amount of active drug in a given dose. A tablet or capsule will weigh more than the amount of active drug because of additives and fillers. An oral liquid will be measured in a ratio of active drug (in milligrams or mg) to liquid (in milliliters or mL).

Why this is important for tapering:
It is essential to determine whether your drug is currently in a form that is safe and possible to taper with and, if it isn't, what other forms may be available that are.

Where this information is commonly found in the drug label:
Information about the available forms of a drug is usually found in the "Dosage Forms and Strengths" section. Alternatively, try searching for the words "available" "dosage" or "form". Note that this information tends to be incomplete in drug labels; for example, labels for brand-name drugs may not include the dosages available in generic forms of the drug, or vice versa. A better place to find *all* of the available forms and formulations of a drug is the FDA's online Orange Book (see the instructions for using the Orange Book in #4 of Step 11 in our *Companion Guide to Psychiatric Drug Withdrawal* provided in Inner Compass Exchange here).

Topic 4: How to store

The storage recommendations for most drugs identify optimal temperatures, levels of exposure to light and moisture, and so on.

***Why this is important for tapering*:**
Improper storage methods may cause the potency of a drug to change significantly. In addition, some layperson taper methods suggest altering the form of a drug, which can potentially have impacts on how and how long the drug can be stored under different conditions.

Where this information is commonly found in the drug label:
This information is usually in its own section called "How Supplied/Storage and Handling". Nevertheless, especially if altering the form of a drug, it is always best to also consult a well-informed pharmacist.

Topic 5: Water solubility

A drug's ability to dissolve in a given amount of water is known as its "water solubility". Depending on its water solubility, a drug will make either a solution or a suspension in combination with water:

- Drugs that are highly soluble in water dissolve fully and make a solution. This means that the molecules of drug are mixed completely in the water, and evenly distributed. (Picture sugar stirred into hot water.)
- Drugs that are partially soluble in water dissolve incompletely, meaning that some of the drug is mixed completely in the water, and evenly distributed, while some stays suspended in the water in its original solid form.
- Drugs that are *not soluble* in water do not dissolve at all but rather stay floating in the water in a *suspension* for a short period of time. (Picture a tablespoon of sand stirred into a cup of water.)

Why this is important for tapering:

If opting for a taper method that involves making a liquid mixture, knowing the level of solubility of the drug is important. Laypeople have successfully tapered off liquid mixtures that are solutions, suspensions, or somewhere in between—but the less dissolved a drug is in a given liquid, the more important it becomes to ensure even distribution of a drug prior to make reductions in dose.

Where this information is commonly found in the drug label:

Information on solubility is sometimes found in the "Description" section. Alternatively, try searching for the words "soluble" or "solubility". Some drug labels may not include any information on solubility. DrugBank is an independent resource that often provides solubility information that can then be checked with a reliable pharmacist.

Topic 6: Half-life

"Half-life" or "elimination half-life" is a calculation of the amount of time it takes for blood levels of a psychiatric drug to be reduced by half through the natural metabolizing and elimination processes in the average human body. The half-life of a drug can vary across individuals given factors such as age, metabolism, genetics and physical health, use of other drugs and substances, and diet.

Half-life is a relative calculation; for example, upon taking a drug with a half-life of 4 hours, after 4 hours there will be half as much of the drug in the blood, and after 8 hours half as much of that, and after 12 hours half as much of that again. In effect, then, it takes five half-lives – or, in this example, 20 hours – to reduce the concentration of a drug by about 97%.

Why this is important for tapering:

A drug's half-life has no effect on how long a person might experience psychiatric drug withdrawal symptoms. However, drugs with shorter half-lives (that are processed out of the body more quickly) are more likely to cause people to experience withdrawal

symptoms in between doses. It can be helpful to be aware of and potentially resolve such “interdose withdrawal” problems prior to beginning a taper. (You can read more about interdose withdrawal at our Withdrawal Project website here.)

Where this information is commonly found in the drug label:

This information is sometimes included in the “Pharmacokinetics” subsection of the “Clinical Pharmacology” section. Alternatively, try searching for the words “half-life”, "elimination", “peak”, “plasma” or “concentration”.

Topic 7: Drug interactions and metabolizing

Many psychiatric drugs are known to interact with each other, with other pharmaceutical drugs, and/or with other substances in a variety of potentially harmful ways. In addition, certain genetic factors can significantly alter how quickly or slowly any individual person eliminates a particular drug from the body, and this can further contribute to potentially harmful interactions. These topics are explored more in Step 12 of our *Companion Guide to Psychiatric Drug Withdrawal*, provided in Inner Compass Exchange here.

Why this is important for tapering:

Changing dosage levels of different drugs during a psychiatric drug taper may have safety-related impacts on drug interactions and the metabolizing and eliminating of drugs. Being well-informed in advance of starting a taper about the possible risks of drug interactions and drug metabolizing can help facilitate more informed choices regarding if and how to taper.

Where this information is commonly found in the drug label:

This information may be found in different sections throughout the drug label, including in "Dosage & Administration", "Contraindications", "Warnings & Precautions", "Drug Interactions", "Use in Specific Populations", and "Clinical Pharmacology".

Topic 8: Guidelines for safe drug altering

Many drug labels have no information about altering a drug. However, occasionally drug labels include guidelines for how to alter a particular drug. For example, a drug label might state that it is possible to open a capsule and pour out its ingredients into a substance such as applesauce—or alternately, the drug label may advise that it is *not* safe to pour out a capsule's ingredients into a particular substance due to possibly risky interactions.

Why this is important for tapering:
When an FDA-approved drug label includes information about drug altering, this typically means that the particular method of altering has been studied and determined to be safe. This may be helpful in planning an approach to tapering.

Where this information is commonly found in the drug label:
If it exists, this information is sometimes found in the "Dosage & Administration" section.

Topic 9: Additional notes

You may wish to leave extra space to include other relevant information you discover as you research your drug label(s).