A large part of a pharmacy technician’s work involves the repackaging of meds. In the community setting, most prescriptions are filled by transferring the necessary quantity of a drug from a stock bottle to a prescription bottle. In the hospital, bulk bottles of tablets and capsules must be repackaged into unit doses for dispensing to patient care units, and IV admixtures are made by transferring the required amount of a drug from a stock vial into another container (e.g., mini bag, large volume IV, etc). However, there are a number of drugs that must be dispensed in their original containers for various reasons. It’s important for pharmacy technicians to know about these drugs so that patients are provided with meds that have not been and will not be harmed by inappropriate storage. This Technician Tutorial reviews meds that must be dispensed in their original containers.

Melvin Carnation, a 69-year-old male patient, brings in an Rx for Pradaxa 150 mg capsules, one by mouth twice daily. This is the first time he has gotten this medication. He tells you that he understands Pradaxa is a blood thinner, and it will replace the warfarin that he has been taking for several months. You know that Pradaxa comes in bottles of 60 caps each, and that it has a special requirement: it must be dispensed in its original container.

Why must some meds be dispensed in their original containers? What are some examples? As mentioned, there are a variety of reasons that meds must be dispensed in their original containers. Here are the most common ones:

**Sensitivity to light or moisture.** It’s a fact that meds lose potency, or become less strong, over time. Exposure to light and moisture or humidity are two of the main causes of this. Some meds lose their potency very slowly. However, some meds are EXTRA sensitive to light and/or moisture so they lose their potency more quickly. These drugs must usually be kept in their original containers to minimize exposure to light and/or moisture, and therefore slow down the loss of potency. You can think of this as similar to meds that must be kept in the refrigerator, where exposure to higher temperatures hastens loss of potency.

Dabigatran (*Pradaxa*) is a great example of a drug that is very sensitive to moisture and must be dispensed in the original container. In the U.S., dabigatran comes in bottles of 60 capsules each. These containers have a desiccant in the cap, which absorbs moisture to keep it from affecting the drug. The container must be kept tightly closed. Dabigatran capsules are good for four months after the container has been opened. Dabigatran also comes in unit-dose blister packs in both the U.S. and Canada. (Note that these might be more convenient for some people, such as those who like to place all of their meds in pillboxes/organizers. Each dose can be kept in its blister pack and placed in the pillbox/organizer.)
Another example of a drug that must be dispensed in the original container because it’s sensitive to moisture is aliskiren (Tektturna, others [U.S.]; Rasilez, others [Canada]). Zafirlukast (Accolate) must be dispensed in the original container to protect it from both light and moisture. Neither of these drugs must be used within a specified period of time (after the bottle is opened) like dabigatran. Sublingual nitroglycerin tablets (Nitrostat) must be kept in their original container to protect them from light, moisture, etc. Just as with aliskiren and zafirlukast, once a bottle of nitroglycerin is opened, it’s good until the expiration date on the bottle as long as it’s properly stored in the original bottle.

Orally disintegrating tablets such as Zyprexa Zydus (olanzapine), Zuplenz (ondansetron-U.S. only), etc., should be dispensed and kept in their individual pouches prior to administration to protect them from light and moisture. Telmisartan (Micardis) tablets must also be kept in their blisters until immediately prior to administration.

Product labeling for drugs such as etodolac (U.S. labeling only), montelukast (Singulair) tabs, mycophenolate (CellCept), and verapamil advises that they must be dispensed and kept in containers that protect them from light. The original container or an amber prescription vial is adequate. (Canadian product labeling for CellCept actually instructs to store the drug in its original container.) These medications shouldn’t be moved into another container that is not light-resistant, such as some pillboxes/organizers. However, some pillboxes/organizers are light-resistant. If you know a patient is using a pillbox/organizer, refer him or her to the pharmacist so the pharmacist can double-check about the meds that he or she wants to store in it. (As mentioned previously, unit doses can be a good option for these types of meds if they need to be stored in a pillbox/organizer.)

Adherence. Some meds should be dispensed in the original container for other reasons. An example of a med that’s packaged to help with adherence is oral contraceptives. They’re packaged so it’s clear to the patient which pill should be taken on which day. Mixing up some oral contraceptives could lead to unwanted pregnancy, or at the very least, bothersome side effects such as irregular menstrual bleeding and menstrual cramps.

Safety. Some medications are to be stored in their original container for safety reasons. An example is finasteride (Proscar). It comes in unit-of-use bottles of 30 or 100 tablets in the U.S. Finasteride is teratogenic, which means it has the potential to harm an unborn baby if the mother is exposed. Dispensing finasteride in its original container helps reduce exposure to the drug by individuals who may come into contact with it, such as female pharmacists and pharmacy technicians who are dispensing it.

You enter Mr. Carnation’s Rx into the computer, and remove a bottle of Pradaxa from the shelf. You place the Rx label on the bottle of Pradaxa, along with an auxiliary label to use the drug within four months of opening the bottle. You place everything together, including a Pradaxa MedGuide, for the pharmacist to check.

Are there any injectable meds that must be kept in their original containers? Interestingly, U.S. government guidelines for storing vaccines recommend that they be stored in the refrigerator or freezer in their original packaging. This is to help make sure they stay at the appropriate temperature and are protected from light, etc. Other injectable drugs that should be stored in their original packaging until the time of use include doses of adalimumab (Humira), etanercept (Enbrel), and golimumab (Simponi). This is to protect the drug from light, and is usually done in the pharmacy anyway. However, these meds can be taken home by patients and self-administered, so it’s important to remind patients about proper storage.
More examples of injectable meds that must be protected from light include vials of amiodarone and both vials and infusions of nitroprusside. Once a nitroprusside infusion is mixed using the medication from the vial, the infusion itself must be covered with a light-protective sleeve, such as one made from foil or an opaque plastic. Sometimes, these come in the box with the medication. Other times, they must be kept in stock in the pharmacy.

**How do I know if a drug must be dispensed in its original container, protected from light, etc?**

If you are unfamiliar with a drug’s storage requirements, just double-check the outside of the carton or the labeling on the ampule, vial, etc. The information you need will usually be there. You can also check the package insert, under the “How Supplied/Storage and Handling” section (“Storage and Stability” and “Dosage Forms, Composition and Packaging” sections in Canada), which is usually near the end. Plus, we have a helpful PL Chart, Oral Meds to Keep in Original Containers. If you’re still unsure about proper storage, ask the pharmacist for advice.

For the convenience of pharmacy staff and to prevent mistakes, consider flagging drugs that must be dispensed in original containers with shelf tags.

**In settings where meds must be unit dosed, what should be done for those that must be dispensed in original containers?**

Ideally, these meds can be ordered and stocked in blister packs from the manufacturer, as mentioned above for Pradaxa. This really circumvents the problem. If blister packs aren’t available and a bulk bottle is your only option, try contacting the manufacturer for information on assigning a beyond-use date for unit doses of the drug. If no information is available, recommend a use-by date of 24 hours on the repackaged product.

Some meds that must be kept in original containers, such as nitroglycerin sublingual tablets (*Nitrostat*), are dispensed in the original containers for inpatients as a bulk supply and not unit dosed. For example, you would send a 25-count or 100-count bottle of sublingual nitroglycerin to a patient care unit instead of packaging the tablets individually. Follow your pharmacy’s policy on this.

**Are there any special considerations for dispensing or labeling meds that must be kept in their original containers?**

It’s important for patients to be aware of why their medication is being dispensed in the original container, and that it should not be transferred to other containers in the home such as pillboxes/organizers.

If a drug has a particular use-by date (a date after which remaining drug must be discarded) like Pradaxa, it’s important for the patient to know. This can be accomplished by both telling the patient and by writing the information on an auxiliary label or on the bottle. Think of this as similar to dispensing reconstituted antibiotic suspensions that are only good for a certain period of time.

When you label a medication that’s being dispensed in the original container, be sure to avoid covering up the NDC number, the expiration date, and the lot number. The pharmacist needs to see this information when he or she is checking the prescriptions. Also, if the bottle comes inside a box, you should make sure that the bottle is labeled. The patient might throw away the box, so it’s important that the box isn’t the only place where a label is placed.

Depending on the days’ supply being dispensed, you may need to help the patient remember to use up the entire supply in one bottle before opening a new bottle. For example, a 90-day supply of Pradaxa would be three bottles. You could number the bottles for the patient, #1, #2, and #3.
When the pharmacist hands the Rx to Mr. Carnation, he reinforces to Mr. Carnation that he should leave the Pradaxa capsules in the original container. Any drug left over after four months should be discarded. Mr. Carnation says that’s no problem. He puts his vitamins and the few other Rx meds he takes in a pill organizer, but he will keep the Pradaxa separate, in the bottle that’s being dispensed to him.

Project Leader in preparation of this PL Technician Tutorial: Stacy A. Hester, R.Ph., BCPS, Assistant Editor