

PHARMACY NEWSCAPSULE

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Medication Chemistry 101 By Doug Englebert, R.Ph.

Ever wonder how a tablet or capsule is made? Basically, raw materials (powders) are combined and compressed to form a tablet or are placed in capsules. In some cases, the tablet is encapsulated with “films” or other materials that may act to create an extended release medication. There are many different ways that films and other extended release techniques work. Some films or encapsulation methods work by allowing small amounts of the medication to be absorbed over time. In other instances, films just allow the medication to be released in the right location of the digestive system.

Why does this matter? This information is critical in health care facilities, in community settings, and in patient homes when medications are “altered” to ease administration or increase compliance. People in various settings open capsules, crush tablets, add medication to food, and even push medication down feeding tubes. When medications are altered in these ways, the medication may no longer work or may cause toxicity and increase adverse events.

When medications are going to be administered through a tube, the medication should first be evaluated to determine if it can be crushed or if the capsules can be opened. The standard of practice for giving medications through a tube is to give one medication at a time followed by a flush of water each time. However, due to fluid overload concerns and time constraints, tablets are usually crushed, capsules are opened, and the powders of multiple medications are mixed together. Water is added to the powder and the mixture is then administered through the tube.

In most cases, mixing the medications like this will not be a problem. However, some medications mixed in this manner can react chemically with each other. When this occurs, it is possible that the medications will become ineffective or will cause adverse events. In addition, the risk of problems increases when the medications are mixed with liquids other than water, including liquid medications. When medications are going to be mixed and administered

through a tube, a pharmacist should be consulted in order to evaluate the medications and to determine if they can be crushed, opened, and mixed together.

Besides mixing medications for administration through a tube, medications are sometimes crushed and added to food. Many medications can be crushed and sprinkled on or mixed with food as long as the mixture is consumed immediately. Immediate consumption can be especially important when mixing extended release medications. However, there are cases in which ease of administration or patient resistance leads to the setting aside of the medication mixture. In some instances the mixture may be set aside for 30 or more minutes. When this occurs, the medication mixture may create an environment where the medications become ineffective or may increase the risk of adverse events. If medications are going to be mixed with food and not taken immediately, the facility needs to check with their pharmacy to determine if the medications can still be used.

New Medications

Brand Name	Generic Name	Use
Cleviprex	Clevidine	Injectable medication for hypertension.
Nplate	Romiplostim	Treatment for idiopathic thrombocytopenic purpura.
Moxatag	Amoxicillin	Once daily antibiotic for tonsillitis.
Toviaz	Fesoterodine	Treatment for overactive bladder.
Treanda	Bendamustine	Treatment for chronic lymphocytic leukemia.
Sancuso	Granisetron	Transdermal patch for chemo-induced nausea and vomiting.

Black Box Warnings: Use of Antipsychotics in the Elderly?

By Doug Englebert, R.Ph.

Over the last five years, various warnings have been issued regarding antipsychotic medications. A warning of particular interest is one that addresses the use of antipsychotics in the elderly person with dementia. Generally, the warning states:

INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS. Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. Antipsychotic medications are not approved for the treatment of patients with dementia-related psychosis.

Does this warning mean that physicians cannot prescribe these medications to the elderly with dementia? No, it does not. What the warning does mean, however, is that there is great risk when these medications are used and that this risk must be discussed and considered as part of the decision to use the medication. It also means that once the medication is used, the client must be closely monitored to assure that benefits are received and that the medication is discontinued as soon as possible when it is no longer effective or necessary.

Nursing home regulations require specific monitoring and dose reductions when antipsychotics are administered to residents with dementia. Other settings have less specific regulations; however, general monitoring for effectiveness and adverse events is required. In all settings, the basic right of being informed of one's care is a requirement.

When an antipsychotic is being used for behaviors of dementia, look to see that other causes of the behavior have been ruled out, that the behavior was persistent, and that the behavior was harmful. If these three components have not been assessed, it is possible that the use of the antipsychotic should be evaluated and is inappropriate.

If these three components were assessed, then---as a surveyor---you can look to see that the use of the antipsychotic is being assessed for effectiveness and adverse events. "Effectiveness" means that the behaviors are well defined and targeted and that the facility is monitoring for the reduction of those behaviors. "Adverse events," such as tardive dyskinesia, hypotension, weight gain, and diabetes are a few examples of the adverse effects that may be monitored. If facilities are not monitoring for effectiveness or adverse events, the use of the medication is inappropriate.

Last but not least, as a surveyor you can make sure that people taking antipsychotics have been properly informed about the potential risks and benefits of the medication. If they have not been informed or have not participated in the decision to use antipsychotics, their rights may have been violated.

Although there is a black box warning for the use of antipsychotics in elderly people with dementia, surveyors do not practice medicine and cannot require that medications be stopped or not used. What surveyors can do, however, is make sure that people placed on antipsychotics have been informed of the risks and benefits, have been assessed for the appropriateness of the medication, and are monitored appropriately while on the medication.

Consultant Corner By Doug Englebert, R.Ph.

1) Does levothyroxine need to be taken on an empty stomach?

Levothyroxine is a thyroid replacement medication that is used to treat individuals with hypothyroidism and which has many drug-drug and drug-food interactions. For example, giving levothyroxine with antacids that contain aluminum or magnesium may decrease the absorption of levothyroxine. It is therefore recommended that the administration of levothyroxine and the administration of antacids be separated by 4 hours. Levothyroxine absorption may also be decreased by certain high fiber foods like broccoli. Due to absorption issues with food, it is recommended that levothyroxine be given on an empty stomach 30 minutes prior to breakfast. This is the usual recommendation to allow consistent absorption and to avoid side effects (like insomnia) that may occur with levothyroxine. That being said, consistency may be the biggest issue when it comes to administering levothyroxine. If a person has always taken levothyroxine with breakfast food and the TSH level has been stable, continuing to give it with breakfast food may be the right thing to do when the person is now in a facility. If timing of administration is going to change, then TSH levels should be checked in 6-8 weeks (as when titrating the medication when it is started).

2) Can a home health agency store patient medications?

Home health agencies have been observed storing patient medications at the home health agency office. In some cases this has been done because the agency is teaching medication management to the patient. In other cases the agency is storing them because the patient has been having problems with family members or others stealing their medications when they are stored at home.

The current regulations for home health agencies do not address medication storage by a home health agency. However, home health agencies are required to complete a comprehensive assessment that includes medications. If that comprehensive assessment indicates that a patient can manage their own medications, the home health agency should not be taking the medications and storing them.

If the comprehensive assessment indicates that a patient needs help with medication management and the home health agency is providing that service, storage of the medication at the agency may---in rare circumstances---make sense (e.g., secure measures at the patient home cannot be attained).

If home health agencies are storing medications for patients, issues like patient rights must be addressed. In addition, clear accountability for the medications should be documented. The home health agency should have standards of practice in place for the storage of medications, access to the medications, environmental controls (i.e., temperature) in the storage room, accountability for the medications, and disposal.

3) Can a pharmacy take medications back from a Community Based Residential Facility (CBRF) for credit?

Yes, a pharmacy can take medications back from a CBRF for credit. However, the medications must not have been in the control of the resident, must be in tamper evident packaging, and the label must contain the lot number and expiration date. Some of the medications used in CBRFs may not meet these requirements and may not be acceptable for return.

4) Can unlicensed assistive personnel (medication aides) administer an opioid (narcotic)?

In most regulated facilities there may be options for unlicensed assistive persons (UAP) to administer medications. Limitations on the UAP regarding medication administration depend on the facility they are working in, the training they have received, and the delegation that is allowed. Please see DQA memo 04-004.