[IMAGE]

The Danger of Drug Reactions & Interactions

Simple Ways to Minimize the Risks

By Julie Engebretson

With approximately 13,000 (and counting) prescription drugs on the market, roughly 100,000 over-the-counter (OTC) drug products widely available, and a pharmaceutical industry that seems intent on driving home the "just take a pill and you'll feel better" mentality for every condition imaginable, medication use is at an all-time high in this country.

The problem with this scenario is that each drug has a long list of potential side effects (just look at the paperwork that accompanies any prescription or OTC medication). And if you are taking more than one drug concurrently, you run the risk of suffering not only side effects from one or more of those medications, but also side effects caused by an interaction *between* the medications.

This scenario is especially true for seniors, who take more prescription medications than any other U.S. demographic. And with the first wave of baby boomers turning 65 in 2008, that senior demographic will only expand in the coming years.

How big is the risk associated with medication use? According to a startling report released in the summer of 2006 by the Institute of Medicine, **at least** 1.5 million patients are injured each year by medication errors - a sobering statistic. Other studies referenced in the report indicate that approximately 400,000 preventable drug-related injuries occur each year in hospitals; 800,000 occur in long-term care settings; and 530,000 occur just among Medicare recipients in outpatient clinics. And the authors of the report noted that these numbers are likely underestimates.

All Drugs Have Potential Side Effects

An ambulance speeding by. - Copyright â Stock Photo / Register Mark How big is the risk associated with medication use? According to a startling report released in the summer of 2006 by the Institute of medicine, at least **1.5 million** patients are injured each year by medication errors. A prescription or OTC drug need not react with another drug to pose a threat. A single little pill, no matter its chemical makeup or documented

success rate in treating a particular condition, is foreign to the body. The Food and Drug Administration (FDA) requires tests (which typically last no longer than six months) before approving a medication; however, the drug's safety remains uncertain until it has been on the market for many years.

Any unexpected decrease or increase in a drug's activity or toxicity is considered an adverse drug reaction. More broadly stated, an adverse reaction is any poisonous response to a drug that occurs at the commonly prescribed dose. This definition also includes any undesirable or unexpected event requiring discontinuation of the drug, modification of the dose, prolonged hospitalization, or the administration of supportive treatment. Although not all drug reactions fit neatly into these categories, most adverse drug reactions are identifiable as either type A or type B.

Type A: These reactions are normal drug effects gone overboard, wherein the expected effects of a medication are exaggerated to the point of being undesirable or intolerable for patients.

Type B: These reactions are often bizarre and far more severe than any known side effects related to the drug prescribed, such as an anaphylactic reaction to penicillin. (Anaphylactic shock can lead to death in minutes if not treated appropriately.) If patients are not tested for what are called "antibody markers," type B reactions are completely unpredictable and may or may not depend on the dosage.

Harmful Drug Interactions

The scale of the drug interaction problem increases significantly in certain patient populations, especially among critical care patients; patients undergoing or recovering from surgical procedures; and among senior citizens, who are taking the greatest number of medications each day. One also must take the following into account:

- Some patients may see multiple physicians for acute and chronic conditions.
- Some patients may obtain medication from more than one pharmacy or by mail.
- An estimated 80 percent of elderly patients routinely take prescription and nonprescription medications concurrently.

A woman and her doctor discuss her medication. - Copyright â Stock Photo / Register Mark Your physician should do more than prescribe medication; he or she should inform you in full about the risks of taking any medication. But its your health on the line, not your doctors. Take responsibility for your own health by asking questions. What's more, there are several types of reactions to watch out for.

Drug-drug interactions: The altered performance of one drug by the administration of a different drug is considered a drug-drug interaction. The properties of either or both drugs can be severely enhanced or diminished, whereby the combination is less beneficial or even harmful when compared to either drug used alone.

Drug-food interactions: Most drug-food interactions are related to absorption of the drug (i.e., whether digestion aids or inhibits absorption of the medication). Hence, many prescription labels indicate "take with meal" or "take on empty stomach." However, your medication and your meal can interact in other undesirable ways.

One particularly significant reaction can occur when certain commonly prescribed antidepressants are taken concurrently with foods containing high levels of the compound tyramine. This can cause serious complications, including an acute increase in blood pressure. Some of the more common foods high in tyramine include avocados, bananas, cheese (especially aged), chocolate, coffee, processed meat (bologna, salami, summer sausage, etc.), raspberries, yogurt, tofu and wine (especially red).

- Vitamin K can antagonize the anticoagulant effect of warfarin.
- Vitamin B_6 increases the metabolism of levodopa, producing decreased anti-Parkinson's effects.
- Calcium, magnesium and aluminum found in food supplements or antacids bind with the antibiotic TCN, resulting in decreased absorption and antibiotic effect of the drug.
- Calcium in some nutritional supplements can reduce the bioavailability of some fluoroquinolone antibiotics, like ciprofloxacin, enoxacin and phenytoin, resulting in decreased antibiotic activity and loss of seizure control.

Drug-disease interactions: Certain drugs can worsen already acute or chronic conditions. For example, the medication prednisone can aggravate congestive heart failure and cause fluid overload. Another reason drug-disease interactions are particularly dangerous is that manifestations of adverse reactions may be very subtle, requiring long-term monitoring.

Drug-herbal interactions: Every year, U.S. adults spend billions on all kinds of natural products and herbal supplements. It's a booming industry indeed, and many natural products bring significant benefit to health-conscious consumers. Still, many Americans underestimate the potency of herbal products because they don't come with a prescription and because adverse side effects from these products, when taken alone,

are rare. But throwing pharmaceuticals in with natural blends can create big problems.

Research shows that an estimated 70 percent of patients may not be disclosing to their physicians which herbal supplements they're taking. Your physician should be asking about your use of herbal or natural products and other OTC medications in order to evaluate the potential for adverse interactions. And even if they aren't asking, it is your job to provide that information to them.

The Best Way to Protect Yourself: Be Proactive

Your physician should do more than prescribe medication; he or she should inform you in full about the risks of taking any medication. But it's *your* health on the line, not your doctor's. Take responsibility for your own health by asking questions - however minor they may seem - and explaining your health history (including other medications you may be taking) and health goals to your physician. Be inquisitive:

- Are there any lifestyle changes (e.g., diet, exercise) I can make in order to avoid taking a particular medication?
- How long has this prescription medication been on the market? In what manner and for how many months did the drug undergo testing and trials?
- Are there similar drugs that have been on the market longer (and thus have proven over time to be effective and with limited risk of side effects)?
- Where can I find a full list of the drug's potential side effects?
- Will a new prescription cause an adverse reaction with any herbs, vitamins, OTC medications, or prescription drugs I am already taking? What is the risk of such a reaction?
- Will I need to change my current diet or cut out any particular foods while taking this medication?

This type of proactive communication is especially important for seniors, many of whom are already taking several medications. A report issued by HealthGrades in July 2004 found that from 2000-2002, an estimated 195,000 Medicare patients died *each year* due to potentially preventable medical errors in hospitals. A different report, published in 2005 in the *Journal of the American Medical Association*, estimated that every month, roughly 10 adverse drug events occurred for every 100 residents of long-term care facilities. The same study also estimated that 42 percent of these adverse drug events were preventable and that 61 percent of events deemed serious, life-threatening or fatal were preventable.

While drugless health care should always be your first option, the reality is that certain medical conditions require just that: medicine. Remember that no drug comes without side effects, but if you must take prescription medication, take initiative, be proactive and get the whole story.

"I Have to Take Medication - What Can I Do to Minimize the Risks?

"Let's face it: For certain health conditions, medication is absolutely necessary, and quite effective. A good example is epilepsy, which can lead to uncontrolled seizures if not managed with Tegretol, Dilantin or similar drugs. In such situations, the question is not whether to take the medication, but how you can ensure that the drug does its "job" without causing you harm. Here are some standard tips to help avoid the dangers of drug reactions and interactions:

A spill of pills and vitamins. - Copyright â Stock Photo / Register Mark

1 Memorize the size, shape, color and strength of any medication you've been prescribed. Question any changes that have not been fully explained by your doctor/pharmacist.

A calendar being written on. - Copyright â Stock Photo / Register Mark

2 Especially if you are taking medication long-term or are taking multiple medications simultaneously, maintain a calendar that makes it clear when you are supposed to take each medication.

A full pill box. - Copyright â Stock Photo / Register Mark

3 Purchase a pill box/organizer. For the senior population, this is essential to minimize the risk of an overdose. It's also a good way to transport your medication, rather than the "stuff it into a bag/purse" approach.

A man and wife consult with their doctor. - Copyright â Stock Photo / Register Mark

4 Each time you're prescribed a new medication, ask your doctor about all of the potential side effects. There are also a number of online resources at your disposal - a good one is the *Physician's Desk Reference* site (www.pdr.net).

Julie Engebretson is a freelance writer for To Your Health. She currently resides in New York City.

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