

me, that I won't be up to the task of caring for her. The first weeks are awful. Betty's still in a wheelchair, suffering terrible pain in her legs. I sense she's angry at me, perhaps wondering if I've done the best I can for her. And sometimes I resent her dependence on me.

At first we try to hide our feelings, but they leak out anyway. We resolve to talk things through as they happen. It helps, but it's slow going.

Winter 1999: A full year since her illness. We continue to have bad days, but now there are just as many good ones. I'm back at work part-time.

The biggest change, though, is Betty's attitude. From the beginning, she's



As Betty gains strength, the family catches up on the months they missed

worked hard at therapy. The doctors say that within a year she'll be back to normal. Just lately, though, I sense she believes it's possible. It's the little things, the way she jokes with, and sometimes scolds, the kids. She's even begun chiding me to tackle neglected household projects.

Spring 2000: The wheelchair is gone, and Betty's walker is folded up and put away. Now she walks with leg braces. Someday, she won't need even those.

Until this past year, I never considered what "in sickness and in health" really meant. I can't imagine not standing by Betty. I couldn't have lived with myself if I hadn't. The truth is, despite everything, the most basic thing hasn't changed: I still love her and I want the same thing I wanted a year ago—the chance to grow old together. ■

Kathryn Casey's new true-crime book, "A Warrant to Kill" (Avon), is due out in October.

BITTER PILLS

BY KATHLEEN MCAULIFFE

They seem so innocuous, these tablets and capsules we wash down with a glass of water. But as Betty Guilliams discovered, even ordinary medicines can sometimes have extraordinarily dangerous side effects. Each year, as many as two million Americans are hospitalized because of adverse drug reactions, with results ranging from loss of hearing and liver damage to comas and cardiac arrest. One hundred thousand people die, making drug reactions one of the leading causes of death. Adverse drug reactions happen for a number of reasons, from carelessness to confusion to just plain bad luck. Here's what you can do to protect yourself.

UNUSUAL DRUG REACTIONS

What They Are Frighteningly, some adverse drug reactions occur without warning and seemingly without reason; this is the type Betty Guilliams suffered. Earlier this year, for example, the decision was made to withdraw the heartburn medicine Propulsid and the diabetes drug Rezulin from the market—even though they work safely and effectively for most patients—because the risks (of heart rhythm abnormalities and liver failure, respectively) for a small segment of the population were judged too great. (Propulsid will continue to be available on a limited basis.)

Why They Happen The cause of these unusual reactions is often a mystery, but scientists think genetic quirks in the way some people's bodies break down drugs are sometimes responsible. An inherited deficiency of an enzyme involved in the production of red blood cells, for example, may explain why some people react badly to antibiotics.

Allergies, which also tend to run in families, may be to blame for other adverse events. Leading the list of allergy-provoking drugs, according to Daniel Albrant, Pharm.D., are antibiotics, cardiovascular medications and narcotic drugs. Albrant is president of Pharmacy Dynamics, a consulting firm based in Arlington, Virginia, that promotes safe drug practices. He warns that because

allergies often worsen with repeated exposure to the offending substance, someone who initially appears to tolerate a drug may later develop a severe reaction to it.

What You Can Do

- Inform all healthcare professionals of any allergies to drugs, foods or herbs that affect you or members of your family.
- Don't switch over-the-counter drug brands for no reason. An apparently equivalent medicine that varies by a single ingredient could be harmful to you.
- Call 911 if you develop symptoms of anaphylactic shock: swelling of the lips and tongue, difficulty breathing, speaking or swallowing, a skin rash.
- Promptly report to your doctor any other unusual symptoms after taking a drug or herb.

On The Horizon Genetic tests promise to prevent adverse reactions by identifying individuals who may respond poorly to particular drugs. Though the field is still in its infancy, a few such tests are already available. At the Mayo Clinic in Rochester, Minnesota, for example, leukemia patients are being genetically screened to learn which ones could have a potentially deadly response to chemotherapy.

DRUG OVERDOSES

What They Are About three-quarters of adverse drug reactions are the result of ingesting too much medicine—and that can happen even when the patient takes the standard recommended dose. "Many people, especially women, suffer unnecessary side effects because they do not require as high a dose as recommended by the drug manufacturer," explains Jay S. Cohen, M.D., an assistant clinical professor at the University of California, San Diego.

In the case of the antidepressant Prozac, for example, Cohen discovered that tests by the drug's manufacturer showed that 54 percent of patients responded best to one-quarter the recommended starting dose. His investigation revealed a number of other drugs with starting doses that are too high for many patients, including hormone supplements, the painkiller Motrin and some high blood pressure drugs (Norvasc, Vasotec, Zestril, Prinivil).

Why They Happen Gender, height, weight, age, differences in liver enzymes and numerous other factors are all known to influence the body's ability to process chemicals. Yet many drugs are available only at a single strength. What's more, the dosages recommended in the *Physicians' Desk Reference* are based on the participants in premarketing trials. Until recently, those subjects were typically men.

What You Can Do

- In Cohen's clinical experience, starting doses are most likely to be excessive for people who report being highly sensitive to coffee, alcohol or other medicines.
 - Start low and go slow, elevating doses in small increments. "But don't set doses on your own," cautions Cohen. "Work with your doctor, because too little of a drug may do nothing at all." The idea is to begin at the lowest dose that has proven effective in clinical trials. To aid in that endeavor, Cohen has published the results of his extensive drug research in *Make Your Medicine Safe* (Avon, 1998).
- On The Horizon** Increased public awareness of this issue may prod both doctors and the pharmaceutical industry to pay more attention to human variation when setting doses. In addition, new research is revealing differences between men and women in their reactions to many drugs, knowledge that will lead to dose recommendations better suited to each sex.

DRUG ERRORS

What They Are Drug errors occur when patients take the wrong drug or use it incorrectly. Doctors, nurses or pharmacists may be responsible, or patients themselves may mis-medicate without realizing it.

Why They Happen "People need to realize that the system of providing drugs has a lot of loopholes," warns Timothy Lesar, Pharm.D., at Albany Medical Center Department of Pharmacy in Albany, New York. He ticks off just a few of them: Prescriptions are handwritten, often in illegible penmanship. Drugs come in look-alike tablets and have sound-alike names, like Celebrex (for arthritis), Cerebyx (for epilepsy) and Celexa (for depression). Patients frequently have multiple doctors, who

don't communicate with one another. And patients themselves may not be well informed about the medicines they are taking, or may be too busy to comply with dosing schedules. In fact, research shows that, due to their harried lifestyles, baby boomers are more likely than the elderly to forget pills or take the wrong dose.

What You Can Do

- When possible, get prescriptions filled midweek, when business tends to be slow. Pharmacists are more likely to make mistakes when overworked.
- When picking up a prescription, always confirm what the medicine is for by asking a question such as, "This is my arthritis medicine, right?"
- Make sure manufacturer's printed matter is included in the package with your prescription.
- Follow dosing instructions carefully, since the erratic use of some medicines can be dangerous.
- Use memory aids, like written reminders or a wristwatch with a beeper, to prevent skipping doses.

On The Horizon New handheld computers with tiny built-in printers are beginning to supplant handwritten prescriptions, according to Jerry Phillips, R.Ph., associate director of the Food and Drug Administration's Office of Post-Marketing Drug Risk Assessment. A small but growing number of hospital pharmacies are also introducing computerized drug-tracking systems. And the FDA is planning to develop computer software to screen new drug names and identify those likely to be confused with sound-alikes already on the market.

DRUG INTERACTIONS

What They Are Many people take more than one medicine at the same time—usually with no ill effects. But sometimes one drug may deactivate another, or worse, combine into a dangerous, even lethal, brew. The once-popular antihistamine Seldane, for example, was removed from the market when several people died from cardiac arrest after taking the antihistamine with other drugs.

Why They Happen The FDA does not require pharmaceutical companies to test for interactions before granting

approval to market a new drug. "The number of potentially dangerous combinations is so large that it would be economically prohibitive to test for them all," explains Philip Hansten, Pharm.D., a leading expert on drug interactions and a professor of pharmacy at the University of Washington, in Seattle. Consequently, a drug may be on the market for months or years before its potential for adverse interactions becomes known. Even when interactions are well documented, Hansten notes, doctors often lag in their knowledge of the hundreds of drugs that shouldn't be mixed. To complicate matters, patients commonly receive care from different medical specialists, who may fail to coordinate their treatments. And the new popularity of herbal remedies—which many patients don't realize should be regarded as drugs—has further increased the possibility of dangerous interactions.

What You Can Do

- Always check drug labels and inserts for interaction warnings.
- Carry in your wallet a list of every drug or herb you are taking, and be sure to share this information with every one of your healthcare providers.
- Always get prescriptions filled by the same pharmacist, so that all your medication records are in one place.
- If you're taking a prescription drug, consult your doctor or pharmacist before using an over-the-counter medicine at the same time.
- Take as few drugs as possible.

On the Horizon Computerized tracking of potential drug interactions—a service offered by many pharmacies—is now expanding to include herbs. One trendsetter in this area is the national drugstore chain CVS, which recently began asking its pharmacy customers to fill out a confidential form listing all the dietary supplements they're currently taking. Its computer database then checks for potential adverse interactions with traditional drugs.

Farther in the future, advances in our understanding of how medicines work on a molecular level may permit pharmaceutical researchers to predict which medicines are likely to create a toxic interaction—before a patient has swallowed a single pill. ■