

## Lifewire: Drug labels can be prescriptions for mistakes

by Ven Griva

A recent study found that many Americans are in danger when it comes to taking prescription medicine because they cannot comprehend how much and how often the medication should be taken.

Misunderstanding was particularly high among those with an eighth-grade literacy level or below and those who took many prescription drugs.

The study, "To Err is Truly Human: Literacy and Misunderstanding of Prescription Drug Labels," was released Nov. 29 at [www.annals.org](http://www.annals.org) and will be printed Dec. 19 in *Annals of Internal Medicine*.

The researchers interviewed 395 English-speaking adults in three states. The five medications identified for the study were two antibiotics, an expectorant, a high blood pressure medicine and a diuretic. Patient literacy was classified either as low (sixth grade and below), marginal (seventh to eighth grade) or adequate (ninth grade and higher).

Health literacy expert and lead author Dr. Terry C. Davis, chairman of the American College of Physicians Foundation's Patient-Centered Health Literacy Advisory Board, and the study co-authors recently discussed the findings at the ACP Foundation's National Health Communication Conference in Washington, D.C.

"Medication error is the most common medical mistake," said Davis, a pioneer in the health literacy field. "Most of the research has looked at the mistakes of health care providers. In looking at patients, we found it was common for them to make mistakes when dosing medicine for themselves, their elderly parents, or their children."

Davis recommends that physicians provide specific instructions to patients about how to take the medicine.

"For example, saying, 'Take one pill at 8:00 a.m. and one pill at 8:00 p.m.,' is better than saying, 'Take one pill every 12 hours,' which is confusing to a lot of patients," said Davis.

### PAINKILLERS THREAT

With flu season in full swing and widespread anticipation of the human papillomavirus, or HPV, vaccine to

prevent cervical cancer, a University of Rochester study suggests that using common painkillers around the time of vaccination might not be a good idea.

Researchers showed that certain nonsteroidal anti-inflammatory drugs, or NSAIDs, such as Advil and Celebrex react with the immune system in a way that might reduce the effectiveness of vaccines, such as the influenza vaccine routinely given to elderly patients.

The research has widespread implications. Study authors report that an estimated 50 percent to 70 percent of Americans use NSAIDs for pain relief and inflammation, even though NSAIDs blunt the body's natural response to infection and might even prolong infection.

"For years we have known that elderly people are poor responders to the influenza vaccine and vaccines in general," said principal investigator Richard P. Phipps, a professor of Environmental Medicine, and of Microbiology and Immunology, Oncology and Pediatrics. "And we also know that elderly people tend to be heavy users of inhibitors of cyclooxygenase such as Advil, aspirin, or Celebrex. This study could help explain the immune response problem."

The study is available online in the Dec. 1 issue of *Journal of Immunology*, and was funded in part by the National Institutes of Health. The findings are based on laboratory studies of blood samples from people who participated in early clinical trials for the HPV vaccine, and on studies of mice.

## ABORTION PILL

The chemical compound for the abortion pill has been found to prevent the growth of mammary tumors caused by the mutant gene responsible for a majority of breast and ovarian cancers, according to University of California Irvine scientists.

This compound, called mifepristone, prevented breast tumors by inhibiting progesterone, a hormone involved with the female reproductive cycle, in breast tissue cells. The discovery points to new prevention methods for women who have a genetic predisposition to breast and ovarian cancers. These women often have their breasts or ovaries surgically removed to reduce the risk of developing cancer.

The study appears in the Dec. 1 issue of *Science*.

"We found that progesterone plays a role in the development of breast cancer by encouraging the

proliferation of mammary cells that carry a breast cancer gene," said Eva Lee, lead study author and professor of biological chemistry at UCI. "Mifepristone can block that response. We're excited about this discovery and hope it leads to new options for women with a high risk for developing breast cancer."

In the study, Lee and her colleagues addressed how mifepristone affects the function of mutated BRCA-1 genes in tissue. The BRCA-1 gene is widely studied by cancer geneticists because a mutated version of this gene significantly raises the possibility of breast and ovarian cancers.

By age 70, more than 50 percent of women with the mutated BRCA-1 gene develop breast or ovarian cancer.

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