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Health Tips – Avoiding Drug Interactions

According to the U.S. Food and Drug Administration (FDA), the rate of adverse drug reactions increases dramatically when a patient is taking four or more medications, including over-the-counter (OTC) drugs. The FDA offers these tips to avoid dangerous drug interactions:

- Always read drug labels carefully.
- Learn about the warnings for all the drugs you take.
- Keep medications in their original containers, so they can be easily identified.
- Ask your physician what drugs, food, beverages and dietary supplements you should avoid with each new prescription.
- If you are taking any prescriptions medications, check with your physician or pharmacist about any possible interactions before taking an over-the-counter drug.
- Have all your prescriptions filled at the same pharmacy.
- Keep all of your health care professionals up-to-date about every medication you take.
- Keep a record of all your prescriptions, over-the-counter drugs and dietary supplements. Try to keep this list with you at all times, and especially during visits to the physician or emergency department.

Patient Safety – How do we compare?

At Licking Memorial Health Systems (LMHS), we take pride in the care we provide. To monitor the quality of that care, we track specific quality measures and compare them to benchmark measures. Then, we publish them so you can draw your own conclusions regarding your health care choices.

Check out our Quality Report Cards online at www.LMHealth.org.

1 The Institute of Medicine published a report in 2000 that highlighted the stunning effects of medication errors. The report set forth a national agenda for reducing errors and improving patient safety by designing a safer health system. Medication reconciliation is the process of obtaining a complete and accurate list of each patient's current home medications – including name, dosage, frequency and route – and comparing the physician's admission, transfer and/or discharge orders to that list. Discrepancies are brought to the attention of the prescribing physician, and if appropriate, changes are made to the orders. Although the medication error rate at Licking Memorial Hospital (LMH) is significantly better than the national benchmark, we make continuous efforts to improve the process. LMH dispensed approximately 4 million doses of medication in 2009.

	LMH 2007	LMH 2008	LMH 2009	National ⁽¹⁾
Medication errors	0.013%	0.008%	0.012%	0.310%

2 Protecting patients from hospital-acquired infections is a primary patient safety goal. LMH has an ongoing program to prevent and treat infections in patients. Per the Centers for Disease Control and Prevention (CDC) recommendations, LMH tracks high-risk patients, including those with an increased risk of infection due to the presence of an invasive device, such as a ventilator, catheter or central venous line. The following data reflects how many infections occurred during 1,000 patient days compared to the national benchmarks.

	LMH 2007	LMH 2008	LMH 2009	National ⁽²⁾
Pneumonia Infection rate of ICU patients on ventilators	1.7	1.7	1.3	1.9
Urinary tract infection rate for ICU patients with urinary catheters	1.7	0.8	1.4	3.7
Bloodstream infection rate for ICU patients with central venous catheters	0	0	0	1.9

3 LMH conducts a comprehensive assessment to determine if a patient is at risk for a fall at admission and during the Hospital stay. Personal alarms and bed sensors help alert staff to a potential fall.

	LMH 2007	LMH 2008	LMH 2009	Goal
Inpatient falls	0.25%	0.23%	0.33%	less than 0.30%

4 Coumadin is a blood thinner (anticoagulant) used to help prevent and treat blood clots. The most common side effect of Coumadin is bleeding in any tissue or organ. It is important for patients to have their blood tested regularly. The blood test, called prothrombin time (PT) and International Normalized Ratio (INR), helps the physician determine how fast the blood is clotting and whether the dosage of Coumadin should change. The testing is very important and must be accomplished at recommended periodic intervals in order to keep the PT/INR result in the best and safest range for the medical condition. Licking Memorial Health Professionals (LMHP) has adopted this recommendation as a safety measure.

	LMHP 2007	LMHP 2008	LMHP 2009	Goal
LMHP patients on Coumadin with PT/INR in last two months	96%	97%	96%	greater than 90%

5 Metformin (trade name Glucophage) is a medication that is used in the treatment of diabetes mellitus and polycystic ovarian disease. It is an effective medication for treatment of both of these unrelated disease processes, but must be used cautiously in patients with compromised renal (kidney) function. It is recommended to monitor renal function prior to initiation of therapy and at least annually thereafter. Licking Memorial Health Professionals (LMHP) has adopted this recommendation as a safety measure.

	LMHP 2007	LMHP 2008	LMHP 2009	Goal
LMHP patients on Metformin with creatinine within last year	95%	95%	91%	greater than 90%

6 Venous thromboembolism (VTE) is a potentially life-threatening condition that results when a blood clot forms within a vein. If the clot becomes dislodged, it can travel to the lungs and cause serious harm or even death. Patients with a heart condition called atrial fibrillation also are at risk for blood clots traveling to the brain, which can cause a stroke. The risk of developing a clot can be high with some studies estimating that approximately 10 to 20 percent of all hospitalized patients develop a clot. Risks are even higher for patients undergoing surgery, those who have suffered a stroke, and in cancer and trauma patients. Often, patients will have no symptoms when a clot has formed. By using preventive measures, such as blood thinners or mechanical devices, the risk for developing a clot can be significantly reduced. One study⁽³⁾ indicated that nationally, only about 34 percent of hospitalized patients at risk for developing clots receive these preventive measures. Due to the great risk of blood clots for patients, LMH has adopted a prevention protocol that applies to nearly all patients admitted to the Hospital to reduce their risk.

	LMH 2007	LMH 2008	LMH 2009 ⁽⁴⁾	Goal
Medical patients receiving VTE prophylaxis by end of day 2	79%	76%	85%	greater than 90%

7 LMHS is committed to providing and encouraging free, easily accessible flu vaccines to all employees. In order to provide the safest care to our community, LMHS recognizes the importance of keeping the staff healthy.

	LMHS 2007	LMHS 2008	LMHS 2009	LMHS Goal	National ⁽⁵⁾
LMHS employees receiving the seasonal influenza vaccine	56%	77%	85%	greater than 80%	62%

Data Footnotes: (1) *To Err Is Human – Building a Safer Health System*, National Academy Press, Washington D.C., 2000. (2) CDC National Healthcare Safety Network pooled median (ICU only) from January 2006 through December 2007, issued November 2008. (3) Anderson, FA *IMPROVE; Blood* 2003. (4) 2009 data reflects only fourth quarter data using new CMS specifications. No national benchmarks have been established. (5) Centers for Disease Control and Prevention (CDC). Interim Results: Seasonal Influenza Vaccination Coverage Among Health-Care Personnel. *MMWR* April 2, 2010 / 59(12); 357-362.

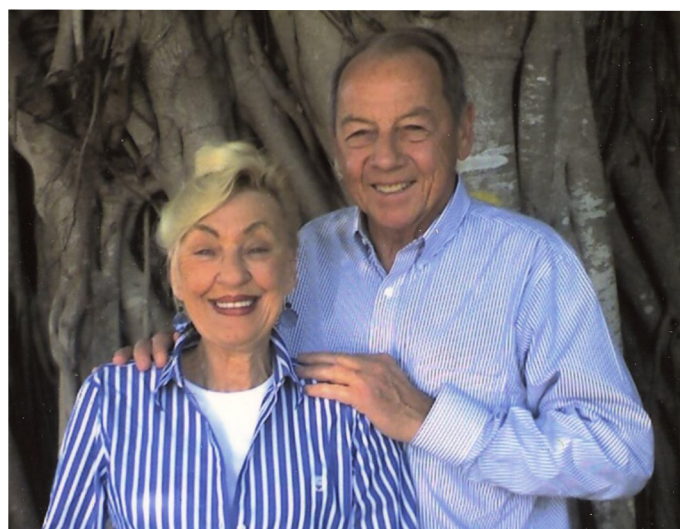
Patient Story – David Schell

When David Schell of Newark began taking additional medications following lung surgery last July, his wife, Jane, set up a system to ensure each drug was taken properly. According to the Agency for Healthcare Research and Quality, the use of multiple medications increases the risk for error and for developing adverse interactions between the medications.

At 72 years of age, David still keeps a busy work schedule. He is a partner at Schell Brothers, a trucking company in Newark. He also owns and operates a grain farm.

During a vacation in Florida several years ago, David mentioned to Jane that he was not feeling well. “I have diabetes, so my first thought was that it was related to my blood sugar level,” David recalled. “However, I checked my blood sugar, and it was okay. Fortunately, my wife insisted that I go to the nearest hospital. They discovered an irregular heartbeat and were able to correct it in the emergency room.”

When the Schells returned to Newark, David reported the incident to Cardiologist Bryce Morrice, M.D. Since an irregular heartbeat increases the risk for dangerous blood clots, Dr. Morrice referred David to the Anticoagulation Clinic at



Jane and David Schell will celebrate their 50th wedding anniversary on February 4.

Licking Memorial Hospital (LMH) for Coumadin therapy. “The staff in the Anticoagulation Clinic have been wonderful,” Jane said. “Every time David visits, they are careful to review his list of medications to check for any possible problems.”

“Coumadin is a blood thinner that can be affected by other medications,” explained Jean Glaser, R.Ph., Pharm D, Director of Pharmacy at LMH. “Patients can easily forget about new medications they started taking since their last visit to the

Anticoagulation Clinic, so we are careful to review the list with them and to educate them about drug combinations that could be dangerous. Even many over-the-counter drugs, such as aspirin, may cause problems in patients who receive Coumadin therapy.”

In 2010, David visited his primary care physician, Mark Mitchell, M.D., and mentioned that his breathing did not feel right. Chest X-rays revealed a malignancy in David's left lung. On July 2, he had surgery to remove a portion of the lung's left upper lobe. Prior to the surgery, the Anticoagulation Clinic worked with David to discontinue the Coumadin therapy to

Patient Story – David Schell (continued on next page)

Patient Story – David Schell (continued from previous page)

reduce the risk of bleeding. David had a follow-up MRI and CT scan several months after the surgery, and to his relief, they showed no signs of cancer.

After the surgery, David began taking additional medications. His medication list at various times included Humulin N, Humulin R, Lisinpril, Toprol, Amiodarone, Cartia XT, Centrum, Ventolin and Coumadin. “I can instantly remember all kinds of terms related to agriculture and business,” David said, “but when it comes to the names of my medications, I have difficulty.”

Jane added, “After every office visit, Dr. Mitchell's staff hands us a computer print-out of the entire list of David's medications. It is so convenient to have that list when we need to tell someone else. We are also confident that we have the medicines' correct names and dosages. I think it would be great if every physician updated their patients' medication records at every visit.”

Over-the-Counter Drugs Must Be Taken Carefully

Over-the-counter (OTC) pain relievers are widely used all over the world. Although the drugs are generally regarded as safe under most circumstances, they can present a health danger when taken in large doses or in conjunction with other drugs.

Aspirin, ibuprofen (brand name Motrin) and naproxen (brand name Aleve) are included in a classification of medicines known as nonsteroidal anti-inflammatory drugs (NSAIDs). They are used mainly to reduce pain and fever. Aspirin was first offered without a prescription in 1915, and has remained the most commonly used medication ever since.

Acetaminophen (brand name Tylenol) was first approved without a prescription by the Food and Drug Administration (FDA) in 1951. It quickly gained popularity as an alternative to aspirin, especially for children who are at risk for developing Reye's syndrome after aspirin usage.

“Because over-the-counter medications are widely used on a frequent basis, patients tend to underestimate their possible risks,” explained Internal Medicine Physician



Before taking prescription medication, patients need to check with their physician or pharmacist regarding any over-the-counter drugs they may use. Even a common aspirin or acetaminophen could produce dangerous interactions if taken in conjunction with other drugs.

Since each of David's medications needed to be taken in different dosages at varying times, David and Jane soon found that the regimen could become confusing. “I made a special spot for all the medicines,” Jane explained. “We also keep a list of instructions that tells how each drug should be taken, and the times they should be taken. In addition, we now have all our prescriptions filled at the same pharmacy, so that all the records are in one place.”

The diligence has paid off. Even though David is statistically at an elevated risk for an adverse medication incident, due to the number of prescriptions he takes, he has not had any problems. As a result, he has been able to recover from his surgery more quickly. Now he and Jane can concentrate on celebrating their 50th wedding anniversary on February 4, with their four children and six grandchildren.

Gerald R. Ehram, M.D. “Sometimes, patients will neglect to read the dosage recommendations on the packaging, or they might mistakenly believe that it is acceptable to take extra medication if they have unresolved pain. In actuality, it is very important for patients to follow the dosage recommendations on over-the-counter drugs very closely. Some medicines are designed to be taken every four to six hours, while others should be taken no more often than every 12 hours. Acetaminophen can cause severe, permanent liver damage if taken at levels over 4,000 mg per day.”

Another potential danger associated with OTC drugs, is that oftentimes, patients do not realize a combination formula OTC or prescription drug they are taking contains acetaminophen or an NSAID ingredient. For example, NyQuil and Theraflu both contain acetaminophen, as do the prescription pain killers, Percocet and Vicodin. Patients who take acetaminophen in addition to these drugs without checking first with their physician would be at risk of a dangerous overdose and possible liver damage.

According to a report by the FDA, U.S. consumers purchased more than 28 billion doses of acetaminophen products in 2005. The report also cites that from 1998 to 2003, acetaminophen was the leading cause of acute liver failure in the U.S., and 48 percent of those acetaminophen-related cases resulted from accidental overdoses.

In some cases, the interaction between an OTC drug and a prescription drug can produce undesired effects. For example, NSAIDs should not be taken in conjunction with blood thinners since they may amplify the effects of the prescription.

The FDA now requires OTC drug manufacturers to include cautionary labeling for products that include acetaminophen and NSAIDs. In addition to reading labels carefully, patients can further protect their health by asking their physician or pharmacist if their prescription medications should not be taken with a specific OTC drug.