

Student Clinical Digest

Presented by the Student College of Clinical Pharmacy, the University of Georgia
College of Pharmacy student chapter of the American College of Clinical Pharmacy*

*Official affiliation expected to be approved Fall 2013

Volume 1 Issue 1

Fall 2013

New Drug Digest

Be in the know about interesting new drugs approved in the last year. Find these in red boxes throughout the newsletter.

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Pharmacists in the ED

Learn how a pharmacist team contributed to dramatic improvements in an emergency department.

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Statins Update Quiz

Are you aware of new labeling? How about monitoring and contraindications? Check your knowledge with a quick, informative quiz.

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Provider Status

Did you sign the petition requesting pharmacists be recognized as health care providers? Read about this allied initiative.

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Clinical Pharmacist Focus

Virginia Fleming, Pharm.D., BCPS

— Anh Nguyen, Pharm.D. Candidate

This issue, we meet internal medicine and infectious disease pharmacist, as well as Clinical Associate Professor at the College of Pharmacy, Dr. Fleming. She shares her career story and her best advice for students.

AN: Why did you decide to pursue a career in internal medicine and infectious disease pharmacy?

VF: Throughout my experiential and residency training, both internal medicine and infectious diseases stood out as areas of interest for me. There is actually a lot of overlap

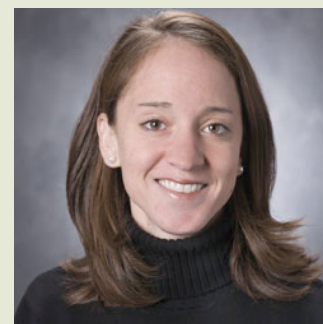
between the two specialties. As an internal medicine clinical pharmacist, you are focusing on managing all the patient's problems. Acute infection is often one of the reasons for admission in many hospitalized patients. In turn, "infectious disease" patients often also have a number of medical issues/ conditions that need attention. I enjoy the challenge of incorporating all aspects of care into a patient case and helping to optimize therapy.

AN: How would you describe your typical workday at your practice site?

VF: Each day, I run a report of all adult patients in the hospital who are on antibiotic therapy. I review each patient's regimen and assess the antibiotic therapy (including appropriateness of empiric therapy, dose/dose adjustments, duration of therapy, culture and sensitivity reports, IV to PO switch, monitoring for ADRs, etc.). I also make rounds with an interdisciplinary team for

patients in both the medical and neuro ICUs. I am involved with several hospital committees that make decisions about antibiotics or that deal with infectious-disease related issues. I am also a resource for any antibiotic-related drug information questions that come up from physicians, nurses, and other healthcare professionals.

Continued on Page 4, "Dr. Fleming"



*Internal medicine and infectious disease pharmacist,
Dr. Virginia Fleming*

FROM THE EXECUTIVE COMMITTEE:

— An introduction by Kristen Alspaugh, President
Phoeny Li, Editor/Secretary

Welcome to the first issue of the Student Clinical Digest of the University of Georgia Student College of Clinical Pharmacy (SCCP). We hope this newsletter will serve as a quick, eclectic review for students who wish to reinforce their clinical knowledge and stay informed on pharmacy events.

SCCP is in the process of becoming the official UGA student chapter of the American College of Clinical Pharmacy (ACCP). The mission of SCCP is to educate student pharmacists about opportunities to further their careers both during and after pharmacy school. We develop student members' clinical skills by reviewing various educational topics, encouraging students to participate in the annual ACCP Clinical Pharmacy Challenge, and connecting students to mentors and research opportunities. We also provide information about pharmacy residency programs and applications, to give our members a leg up in the competitive process. Membership is open to all students at the UGA College of Pharmacy.

Our founding executive members include: Kristen Alspaugh, President; Julianne Jones, President-Elect; Lindsay Schaack, Vice President; Phoeny Li, Secretary; Anh Nguyen, Education Chair (Athens); and Sheryle Gillette, Education Chair (Augusta). Our Faculty Advisor is Beth Bryles Phillips, Pharm.D., FCCP, BCPS. •

New Drug Digest: Sumatriptan Iontophoretic Transdermal System (Zecuity)

Chris Brannen, Pharm.D. Candidate



Approved: January 17, 2013
Company: NuPathe

Zecuity is the first-ever transdermal patch for relief of migraines and migraine-related nausea. The single-use, battery-powered system is applied to the arm. Its microprocessor monitors skin resistance and adjusts the dose delivered in response. The most common side effects were application site pain, tingling, and itching.

Reference: Formulary. FDA approves first migraine patch. *Formulary*. 18 Jan 2013. Accessible at <http://formularyjournal.modernmedicine.com/formulary-journal/news/drug-topics/fda/fda-approves-first-migraine-patch>. Accessed 22 Feb 2013.

Image: <http://www.nupathe.com/images/usr/np-patch-int-pg.jpg>

New Study Highlights the Benefits Pharmacists Bring to the ED

— Marisa Fortunato,
Pharm.D. Candidate

Pharmacists are bringing their clinical knowledge and medication expertise to the emergency department (ED), and hospitals are noticing. A pilot study conducted at the Winchester Medical Center in Winchester, Virginia, has taken a look at the impact that pharmacists have on preventing medication errors when they work in the ED. When nursing staff alone interviewed ED patients regarding their medication use, 1547 discrepancies were overlooked. But when a pharmacy technician-pharmacist team was brought in, this number dropped by an impressive 96%.¹ The discrepancies caught by the pharmacy team ranged from information regarding the date and time of the patient's last medication dose to the

identification of incorrect drug orders.

This study highlights the important role pharmacists play in ensuring patient safety in the hospital, particularly during transitions of care, and how these contributions are valued. Having pharmacists on hand as drug experts in the ED can significantly decrease the number of adverse drug events. Pharmacists in the ED are also physically available to advise physicians and counsel patients directly.² This represents the beginning of an exciting trend of pharmacists gaining more responsibility and accessibility in the hospital setting. •

References:

1. Gao T, et al. Admission medication reconciliation utilizing a pharmacy technician and pharmacist team in the emergency department: a pilot study. *ASHP* 2012; Abstract 5-190.
2. Walsh N. Pharmacists in ED help cut drug errors. *Medpage Today*. 7 Dec 2012. Available at <http://www.medpagetoday.com/MeetingCoverage/ASHP/36323>. Accessed 1 Mar 2013.

How Well Do You Know Your Statins? An Update

— Alexa Volpe, Pharm.D. Candidate

Statins are a class of cholesterol-lowering drugs whose mechanism of action involves inhibition of HMG-CoA reductase. They help prevent heart attacks and strokes. See what you know about recent changes in statin labeling.

1. New labeling for statins warn about increased risk of which of the following?

- Hypoglycemia
- Confusion
- Higher A1c
- B and C

As the Food and Drug Administration (FDA) stated in a 2012 safety announcement, there have been rare reports of cognitive side effects such as memory loss or confusion, as well as increased blood sugar and A1c levels, but this slightly increased risk does not outweigh the cardiovascular benefits of statins.¹ *Pharmacist's Letter* recommends to first rule out other etiologies, then lower the dose or switch to a different statin.²

Answer: d.

2. According to new guidelines, how often should a patient's liver enzyme tests be performed while on a statin?

- Before therapy is initiated and every 4 months thereafter.
- After therapy is initiated and bi-annually.
- Before therapy is initiated and as clinically indicated thereafter.
- Never, unless symptoms appear.

According to the FDA, serious liver injury with statins is rare and unpredictable. Monitoring of a patient's liver enzymes after initiation of statin therapy is only recommended for patients who complain of symptoms such as unusual fatigue or weakness, loss of appetite, upper belly pain, dark-colored urine, or yellowing of the skin or the whites of the eyes. In case of symptomatic serious liver injury, hyperbilirubinemia, or jaundice, suspend therapy. Routine periodic monitoring has not been effective in the early detection or prevention of serious liver injury.¹

Answer: c.

3. New labeling for lovastatin indicates strong drug-drug interactions. Which of the following are now considered contraindicated with this drug?

- Itraconazole
- Clarithromycin
- Omeprazole
- A and B

Lovastatin is a sensitive in vivo cytochrome CYP3A4 substrate. Strong CYP3A4 inhibitors are predicted to significantly increase lovastatin exposure, thus increasing risk of adverse effects such as rhabdomyolysis. A literature review indicates that itraconazole, a strong CYP3A4 inhibitor, increases lovastatin exposure up to twenty-fold.³ This effect is extrapolated to other strong CYP3A4 inhibitors, including clarithromycin.¹

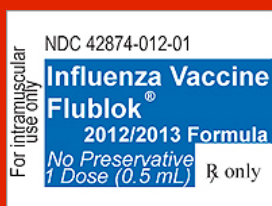
Answer: d.

References:

- U.S. Food and Drug Administration. FDA Drug Safety Communication: Important safety label changes to cholesterol-lowering statin drugs. *U.S. Food and Drug Administration*. 3 July 2012. Available at <http://www.fda.gov/Drugs/DrugSafety/ucm293101.htm>. Accessed 25 Feb 2013.
- Statins. *Pharmacist's Letter*. Apr 2012; 28.
- Lees RS, Lees AM. Rhabdomyolysis from the coadministration of lovastatin and the antifungal agent itraconazole. *N Engl J Med* 1995; 333:664-5.

New Drug Digest: Influenza Vaccine (Flublok)

Chris Brannen, Pharm.D. Candidate



Approved: January 16, 2013

Company: Protein Sciences Corporation

This trivalent flu vaccine is the first ever made without eggs, has triple the active ingredient of the standard vaccine without any other viral components, and is even free of preservatives, antibiotics, and adjuvants. For use in patients age 18-49.

Reference: Formulary. FDA approves new seasonal flu vaccine made using novel technology. *Formulary*. 17 Jan 2013. Available at <http://formularyjournal.modernmedicine.com/formulary-journal/news/drug-topics/fda/fda-approves-new-seasonal-flu-vaccine-made-using-novel-techno>. Accessed 20 Feb 2013.

Image: http://img.medscape.com/news/2013/ht_130117_flublok_label_200x151.jpg

Breaking Down ACCP's Clinical Pharmacist Provider Status Initiative

— Marisa Fortunato,
Pharm.D. Candidate

What is it?

In November 2012, the American College of Clinical Pharmacy (ACCP) launched an initiative to recognize the direct patient care (DPC) services provided by clinical pharmacists. ACCP's hope is to have these services—including patient pharmacotherapy evaluation; initiation, modification, and discontinuation of therapy; and continuous monitoring and follow-up—specifically covered as a Medicare benefit.

Who will it affect?

ACCP stipulates that the pharmacist covered should be board certified or board eligible and should have formal clinical privileges granted by their practice system. While ACCP's initiative focuses on advancing the status of clinical pharmacists, organizations such as American Pharmacists Association (APhA), American Society of Health-System Pharmacists (ASHP), and Academy of Managed Care Pharmacy (AMCP) have similar campaigns underway to achieve provider recognition for all pharmacists.

Why is this important?

Though pharmacists currently provide extensive pharmacotherapy management and direct patient care services in many clinical settings, there is no federal recognition of their services as health care providers, and therefore no adequate method for reimbursement is

provided with federal funds. Medicare Part D is designed to pay for pharmacy dispensing services and some medication therapy management (MTM) services, but clinical pharmacists actually provide much more than that. Being recognized as direct health care providers will let clinical pharmacists be utilized to their full potential and will increase their opportunities in hospitals and private practice settings. This will certainly lead to improved patient outcomes, reduced health care costs, and a more effective collaborative health care system. •

Adapted from: American College of Clinical Pharmacy. ACCP Moves Forward with Medicare Benefit Initiative to Recognize Clinical Pharmacists' Direct Patient Care Services. *ACCP Report*. Jan 2013. Available at <http://www.accp.com/report/index.aspx?iss=0113&art=1>. Accessed 28 Feb 2013.

Continued from Page 1 Dr. Fleming

AN: What educational steps did you take to get to where you are today?

VF: After graduating from pharmacy school, I completed both a pharmacy practice (PGY-1) residency and internal medicine (PGY-2) specialty residency with sub-emphasis in infectious diseases. Since establishing the Antimicrobial Stewardship Service at my hospital, I have also completed the Making a Difference in Infectious Diseases (MAD-ID) certificate program for pharmacists practicing in ID/antimicrobial stewardship.

AN: What is your advice for students who are interested in residency and clinical pharmacy?

VF: Take every opportunity you can to go “above and beyond” the minimum requirements of your APPE experiences. Seek out opportunities to be involved in research projects, publications, presentations, and anything else that you can. The search for residency positions is now so competitive that the more you can experience and participate in, the better your application will look to potential programs of interest. Additionally, having experience with these activities as a student will better prepare you for the residency year and help you to find what areas of practice interest you the most. •

New Drug Digest: Apixaban (Eliquis)

Chris Brannen, Pharm.D. Candidate



Approved December 8, 2012
Company: Bristol-Myers Squibb

A new oral anticoagulant, alternative to warfarin. More effective in patients with atrial fibrillation for preventing strokes and less likely to cause bleeding and death than warfarin.

Reference: New Drug Eliquis. *Pharmacist's Letter*. Feb 2013; 29.

Image: <http://www.mims.co.uk/news/1100981>