



LA HEALTH-SYSTEM PHARMACIST

Newsletter of the Louisiana Society of Health-System Pharmacists

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www.lshp.org

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FROM THE DESK OF THE PRESIDENT

Wow! It's amazing how quickly time passes and things change. I feel as though it was just yesterday when Dr. Mike Cockerham was declaring himself the Immediate Past "Has-Been" and I was thrust onto the scene as LSHP President. I hope that you've enjoyed this journey as much as I have and that our organization has made a positive impact on your practice and patients throughout the past year.

In the process of developing my final column I came across a quote that encompasses my feelings as I near the end of my term as LSHP President.

"There is no such thing as a 'self-made' man. We are made up of thousands of others. Everyone who has ever done a kind deed for us, or spoken one word of encouragement to us, has entered into the make-up of our character and of our thoughts, as well as our success." - George Matthew Adams

Therefore, I wanted to move away from the typical script of this column of supplying information of the day-to-day workings of LSHP and show my sincere gratitude to the large group of people who have made the past year a success.

First, I have to start by thanking my LSHP "right-hand." Our Association Coordinator Kati Craig has done a remarkable job of assisting me with virtually every aspect of conducting my presidency. And somehow she still appears to answer the phone with a smile when my number shows up on the caller I.D.

Second, there are my LSHP mentors: Mike Cockerham, Tommy Mannino, Mathew Thomas, Jay Schwab, Helen Calmes, Charlie Jastram, and Malcolm Broussard. Each of these individuals provided me with enormous support and counsel both before and during my term.

Next, I wanted to thank the LSHP Board of Directors, Chapter Presidents, Committee Chairs, and Executive Director: Michael Cockerham, Barries Leung, Trey Wynn, Helen Calmes, Jo Watkins, Greg Leader, Teresa Nash, Lisa DiGioia Ross, Tommy Mannino, Ann Wicker, Winona Thomas, Angela Winke, Gerald Lanclos, Jason Hall, Amne El Rachidi, Marty Steffenson, Dana Jamero, Mathew

Thomas, David Loftin, Michael Loftin, Angela Martin, and Bland O'Connor. These individuals were responsible for developing and implementing the LSHP agenda while keeping the organization on solid financial ground.

In the past year we've seen a great improvement in student membership and participation on a state-wide level. We basically asked the students to participate and they delivered in a big way. Therefore, I wanted to personally thank all of our student members for their support and our LSHP ULM and Xavier Chapter Presidents, Kim Leach and Jack Iskander, for leading the way.

Finally, I wanted to thank you the members of our organization. Without your membership and support the past year would have not gone so well. I also wanted to encourage you to take a chance and get involved with us on the local or state level. The Immediate-Past-President's primary duty is recruitment, and since I'm only 1 month away from being a "Has-Been" I would love to have the opportunity to put you to work with the wonderful bunch of people that I've listed above. Thanks for helping us shape a better LSHP and I look forward to seeing all of you at the Annual Meeting in New Orleans in April.

Christopher Betz, PharmD
LSHP President



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VACANT

**THE 2007 LSHP ANNUAL
MEETING
APRIL 26-28, 2007
NEW ORLEANS HILTON RIVERSIDE**

TO REGISTER:

Brochures are available online at www.lshp.org, or by calling the LSHP office at (225) 922-4520.

HOTEL REGISTRATION:

The LSHP Annual Meeting will take place at the Hilton Riverside. To book a room, call 504-561-0500, or 1-800-HILTONS. Be sure to tell them you are with LSHP to get the \$199 room rate. The rate is available until March 26. Parking at the Hilton is \$25 per day. Jazz Fest begins this weekend, so book your room early!

**EVENTS YOU DON'T WANT TO MISS
AT THIS YEAR'S LSHP ANNUAL
MEETING:**

A Great Welcome Reception Venue
An Outstanding Exhibition
An Informative Poster Session
The General Membership Meeting
The Awards Luncheon with
ASHP Address
Fabulous CE opportunities
Networking with your fellow
health-system pharmacists
from across the state

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Please send article submissions to the newsletter editor, Dana Jamero, via email at djamero@xula.edu.

Pharmacy Controversy: Demerol® Use

Linnea Perkins, PharmD and Helen M Calmes, PharmD, MBA

Demerol® (meperidine) has been used for decades in the management of moderate to severe pain and as an adjunct to anesthesia and preoperative sedation. However, it is the CNS side effects of Demerol® that have prompted many hospitals across the country to limit or prohibit its use. Demerol® is metabolized in the liver through two pathways, but the most significant is N-demethylation to the active metabolite normeperidine. Normeperidine has CNS excitatory activity and can precipitate anxiety, mood changes, myoclonus or seizures. Normeperidine has a half-life of 15-30 hours that is significantly prolonged in those with renal impairment and in the elderly. Its long half-life may lead to accumulation and side effects with repeated dosing even in patients with normal renal function.

CNS Adverse Effects

The CNS adverse effects of Demerol® may be related to the ratio of normeperidine to meperidine in the blood.¹ Meperidine may mask the CNS excitatory effects of normeperidine up to a certain ratio and once it is exceeded, the patient may begin to exhibit signs of CNS excitation. A study was published in the Annals of Neurology in which 67 cancer patients received Demerol® after surgery.¹ About 70% of the patients with symptoms of CNS toxicity had no signs of renal dysfunction. Other cases of CNS toxicity in patients with normal renal function have also been described.^{2,3} The duration of therapy could also not be clearly linked to symptoms of CNS toxicity. All of the asymptomatic patients received Demerol® for 2 days or less but the symptomatic patients received Demerol® for a range of 1-30 days. This study showed that CNS toxicity due to Demerol® may occur at any time in any patient.

Demerol® Restrictions at Other Hospitals

Demerol® use has been either severely restricted or eliminated at a growing number of hospitals across the country including Johns Hopkins Hospital and San Francisco General Hospital. Hospitals are implementing formulary restrictions for Demerol® in order to comply with recommendations from the American Pain Society and ACHPR/AHRQ (Agency for Healthcare Research and Quality) pain management guidelines. Demerol® should be used cautiously in all patients and should be avoided in the elderly, patients with renal insufficiency and patients with a history of seizures. The use of alternative analgesics is strongly encouraged because of the potentially dangerous side effects profile of Demerol®.

Appropriate Indications for the Use of Meperidine

- Treatment of acute episodes of moderate to severe pain in

the patient with a documented history of unmanageable adverse reactions to or unsuccessful pain management with first-line opioids.

- Treatment or prevention of rigors induced by blood products or drugs (e.g., amphotericin B, platelets) or post anesthesia shivering.
- Pre-and post procedure analgesia where rapid onset and short duration of drug action improve patient care.
- Research protocols where meperidine is specified.
- Administration by an anesthesiologist for neuraxial analgesia.

Demerol® Facts

- Normeperidine has half the potency of meperidine as an analgesic and three times the potency as a convulsant.
- Oral Demerol® leads to a much higher normeperidine concentration in the blood due to first pass effect.
- There is little evidence that Demerol® is better than morphine for biliary colic or pancreatitis.

American Pain Society Recommendations

- Demerol® should not be used for chronic pain.
- Demerol® should be reserved for patients with documented allergies or intolerance to first-line opioids.
- Demerol® should be given at a dose no greater than 600mg/day for no longer than 2 days in patients with normal renal function.

Many hospital P&T's are recommending severe restriction or removal of meperidine in the near future. **What's your opinion?**

Please send your thoughts and comments to djamerol@xula.edu or LSHP 8550 United Plaza Blvd, Suite 1001 Baton Rouge, LA 70809.

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- Kaiko RF, Foley KM, Grabinski PY, et al. Central Nervous System Excitatory Effects of Meperidine in Cancer Patients. *Ann Neurol.* 1983;13(2):180-5.
- Marinella MA. Meperidine-Induced Generalized Seizures with Normal Renal Function. *South Med J.* 1997;90(5):556-8.
- Mauro VF, Bonfiglio MF, Spunt AL. Meperidine-Induced Seizure in a Patient Without Renal Dysfunction or Sickle Cell Anemia. *Clin Pharm.* 1986;5:837-9.



Dues Renewals

LSHP members whose membership expired at the end of 2006 will be dropped from the rolls at the end of March. To renew, please send in your membership renewal form to the office. If you haven't received your membership renewal form, you can find a membership application on the LSHP website, www.lshp.org, or call the office to have one sent to you. Keep in mind that current LSHP members receive discounted registration to the Annual Meeting!



LEGISLATIVE UPDATE

David Loftin



In what may be my last contribution as Legislative Chair, there is not much to report. Most regulations have been placed on hold pending the completion of the Collaborative Practice agreement with the Medical Examiners. Most of the initial wording has been worked out on this and the formal notice should be posted in the Louisiana Register in the March 20th edition. You can access this notice as well as others at their website at www.doa.state.la.us/osr. You can also access this information at the Board's website at www.labp.com (meetings & notices...Promulgation Projects). The other past issues regarding Remote Order entry, Live CE, and the Controlled Substances Prescription Monitor Program should get back on track soon.

On the last two ASHP Legislative Affairs conference calls that I participated in, there were a few items of interest. The first was the topic of competing Pharmacy Technician examinations. Apparently there is some talk of an additional test besides the PTCB. It is the ASHP position that the PTCB is the only one that has Psycho Metric Validity. I'm not sure I can even explain what that means except to say the PTCB is what ASHP supports and accepts.

The second and most disturbing issue to me is that the California Board of Pharmacy has authorized Tech check Tech. I think that everyone should be aware of this and the possible implications. As you know, with the recent changes in the Technician Scope of Practice here in Louisiana, the Board has demonstrated, in my opinion, a dangerous precedent. I think it is time for all of us to pay attention to our future. The Board has said its role is protection of the public, not pharmacists' jobs. If this Tech check Tech were to come to Louisiana, the only pharmacist needed may be the Director! I am sure the chains, which are snatching up most Pharm D's with their lure of a sign-on bonus would love to shove this down our throat. The ones that do come to hospitals don't want to do distributive functions. Who's going to do the work? Stay tuned....

These calls have been informative. It is interesting to see that other states have the same problems that we do and some are just starting to tackle the ones we are past. I have another conference call this week; I can't wait. It has been a lot of fun.

Federal Grant Will Pay Bonuses and Incentives to Health Providers Practicing in the New Orleans Metro Area

At the last LSHP Board Meeting, Dr. Helen Calmes, LSHP Treasurer, brought to the Board's attention that an incentive program is being offered through the Department of Health and Hospitals to doctors and other healthcare providers practicing in the New Orleans area. Dr. Calmes explained that this program did not include pharmacists. The LSHP Board directed their efforts to getting pharmacists included in this incentive program by pointing out that there is a shortage of pharmacists in the New Orleans area. It was announced very recently that pharmacists are now eligible for this program.

Eligibility requirements

- Licensed pharmacists (please see website for full list of eligible practitioners)
- Work in a federally designated health professional shortage area in the Greater New Orleans Area
- Work for a public, private for-profit or private non-profit entity that accepts all patients regardless of ability to pay
- Work full-time (40 hours per week) with 32 of those hours providing direct patient care
- Accept assignment of Medicaid patients and have a

- sliding fee scale for low-income, uninsured patients
- Notify patients of alternative payment options via posted signs
- Commit to a three-year service obligation in the Greater New Orleans Area
- Not currently practicing in a designated HPSA in Louisiana outside of the Greater New Orleans Area

Participants must have:

- United States citizenship or national license to practice in Louisiana or have applied for license
- No other current federal or state obligation for health professional services
- Not defaulted on educational loans
- Not breached a health professional service contract

Source: <http://www.dhh.louisiana.gov/offices/page.asp?id=88&detail=7589>

To find out more about who is eligible and how to apply, please visit <http://www.dhh.state.la.us/news.asp?Detail=1060>.

Applications will be accepted beginning March 30, 2007.

Newly-Approved HIV Medications 2005-2006: A Quick Summary of Atripla[®], Prezista[®] and Aptivus[®]

Justina Ogbuokiri, PharmD

The past three years have witnessed a robust effort on the part of drug manufacturers in the HIV/AIDS market to introduce new products. Such efforts focus on fixed dose combination products to further simplify and intensify treatment for treatment-naïve subjects and introducing new agents for salvage therapy for HIV-infected patients with advanced disease. Both of these important steps are being carried out in order to increase choices for treatment in salvage therapy. They also promote optimal adherence, a key ingredient in the achievement of the desired successful immunological and virological outcomes that have transformed this disease into a chronic but manageable illness both for newly diagnosed as well as patients with advanced disease. The relevant highlights of three such agents, approved between 2005 to 2006 will be reviewed in this article.

Atripla[®] (efavirenz/emtricitabine/tenofovir disoproxil fumarate)

Atripla[®] is the first-ever once-daily single tablet regimen (STR) for HIV in adults. It is intended as a stand-alone therapy or in combination with other antiretrovirals. It contains 600mg of the non-nucleoside reverse transcriptase inhibitor (NNRTI) efavirenz (Sustiva[®]), 300mg of the nucleotide reverse transcriptase inhibitor (NtRT) tenofovir disoproxil fumarate (Viread[®]), and 200mg of the nucleoside reverse transcriptase inhibitor (NRTI) emtricitabine (Emtriva[®]) in a single pill for once-daily dosing. All three active ingredients work by blocking reverse transcriptase, an enzyme necessary for HIV replication. The dose of Atripla[®] for adults is one tablet once daily taken orally on an empty stomach. Atripla[®] is not recommended for use in patients less than 18 years of age or in persons greater than 65 years of age. Important warnings and adverse reactions include those associated with efavirenz, such as serious psychiatric adverse experiences including severe depression, suicidal ideation, nonfatal suicide attempts, aggressive behavior, paranoid reactions and manic reactions. Fifty-three percent of patients reported central nervous system symptoms including dizziness, insomnia, impaired concentration, somnolence, abnormal dreams and hallucinations when taking efavirenz. These symptoms usually begin during the first or second day of therapy and generally resolve after the first two to four weeks of therapy. Dosing at bedtime may improve the tolerability of nervous system symptoms.

Atripla[®], like all fixed dose combinations, should not be used in patients with moderate or severe renal impairment (CrCl <50ml/min.) where adjustment of dosages based on their renal indices will be needed. Atripla[®] is classified as **Pregnancy Category D** and may cause fetal harm when administered during the first trimester to a pregnant woman. Women should not become pregnant or breastfeed while taking Atripla[®].

Important precautions for Atripla[®] include monitoring for a skin

rash and liver enzymes. Skin rashes may be mild to moderate; rash is a common side effect of efavirenz. Monitoring for liver enzymes is important especially in patients with known or suspected hepatitis B or C and when Atripla[®] is administered with ritonavir or other medications associated with liver toxicity. Atripla[®] may also cause decreases in bone mineral density that have been seen with tenofovir disoproxil fumarate and should be used with caution in patients with a history of convulsions and seizures. Convulsions have been observed in patients receiving efavirenz, generally in the presence of known medical history of seizures. Other reported adverse events include fat redistribution and/or accumulation of body fat which have been observed in patients receiving antiretroviral therapy and immune reconstitution syndrome which has been reported in patients treated with combination antiretroviral therapy, including the components of Atripla[®]. Atripla[®] is contraindicated in patients with previously demonstrated hypersensitivity to any of the components of the product.

Atripla[®] should not be administered concurrently with astemizole, cisapride, midazolam, triazolam, ergot derivatives, or voriconazole because of competition for **CYP3A4** by efavirenz which could result in inhibition of metabolism of these drugs, creating the potential for serious adverse events. Concomitant use of Atripla[®] and **St. John's wort** (*Hypericum perforatum*) or **St. John's wort**-containing products is not recommended. Since Atripla[®] contains efavirenz, emtricitabine and tenofovir disoproxil fumarate, it should not be co-administered with Sustiva[®] (efavirenz), Emtriva[®] (emtricitabine), Viread[®] (tenofovir), or Truvada[®] (emtricitabine and tenofovir disoproxil fumarate). Due to similarities between emtricitabine and lamivudine, Atripla[®] should not be co-administered with drugs containing **lamivudine, including Combivir[®], Epivir[®], Epivir-HBV[®], Epzicom[®], or Trizivir[®]**. Co-administration of Atripla[®] and atazanavir is not recommended due to concerns regarding decreased atazanavir concentrations. Patients on lopinavir/ritonavir plus Atripla[®] should be monitored for tenofovir-associated adverse events. Atripla[®] should be discontinued if they are detected. Co-administration with didanosine should also be undertaken with caution. Patients receiving this combination should be monitored closely for didanosine-associated adverse events. Atripla[®] should be kept at room temperature in the original container and tightly closed.

Prezista[®] (darunavir) and Aptivus[®] (tipranavir)

Prezista[®] (darunavir) and Aptivus[®] (tipranavir) are two newly approved second generation protease inhibitors. They are now available for deep salvage for patients with advanced HIV infection who may have developed resistance to all three classes of antiretroviral agents.

The recommended dose for darunavir is 600mg (2 tablets) twice a

Article continued on page 8

Simulation Mannequin: New Classroom and Laboratory Tool at the ULM College of Pharmacy

Roxie Stewart, Pharm. D., Marty Steffenson, Pharm. D., Mike Racca, M.D.,
Donna Glaze, B.S., M.Ed., and Jan Shows, R.N., B.S.N.

During the Spring of 2006, third year pharmacy students (P3's) who were enrolled in Pharmacy 503 (Physical Assessment for the Pharmacist) were allowed access to a very sophisticated teaching tool called SimMan™. SimMan™, produced and marketed by the Laerdal Medical Corporation, is a full-scale adult mannequin interfaced with a laptop computer and air compressor for the purpose of emulating human physical signs and responses to disease and clinical interventions. This mannequin allows for assessment, palpation, auscultation, and percussion of normal and pathophysiological findings.

SimMan™ breathes, produces heart sounds, lung sounds, and bowel sounds. He gags, vomits, and even talks. He can be programmed to die, and can actually be resuscitated. Dr. Florencetta G. Gibson, Director of the ULM School of Nursing, welcomed the College of Pharmacy into the ULM nursing laboratory to access this mannequin. Clinical pharmacy faculty members Dr. Justin Sherman, Dr. Mike Racca, and Dr. Martin Steffenson worked closely with Jan Shows (ULM Nursing Skills Lab Coordinator) and Donna Glaze (Director of Nursing Technologies) to provide our students a wonderful opportunity and a unique educational experience.

During the Physical Assessment course, SimMan™ was primarily utilized for teaching manual blood pressures, palpating radial and femoral pulses, recognition of normal heart sounds and cardiovascular abnormalities such as arrhythmias and valvular defects. Dr. Lamar Pritchard, Dean of the College of Pharmacy, observed first hand student use of this clinical teaching tool, and recognized its potential for use in a variety of



courses offered in the new professional pharmacy curriculum. The ULM College of Pharmacy is now awaiting the arrival of its very own SimMan™, which will reside in the new Pharmacy Care Lab. SimMan™ comes with pre-programmed scenarios, or instructors can design and save their own patient cases. Also, web-cam recording will also allow for video debriefing between the instructor and the students.

The ULM Pharmacy Care Lab team believes the use of this interactive technology in the classroom is an effective and pragmatic teaching tool which will bring our students to a new level of understanding by challenging and testing their clinical decision-making skills.

Congratulations to the following LSHP Members who have been appointed to the following ASHP Committees or Councils:

Council of Education and Workforce Development : Michael Cockerham

This Council concerns ASHP professional policies related to the quality and quantity of pharmacy practitioners in hospitals and health systems.

Council on Pharmacy Management: Paul Knecht

This Council concerns ASHP professional policies related to the process of leading and directing the pharmacy department in hospitals and health systems.

Council on Pharmacy Practice: Jay Schwab (alternate)

This Council concerns ASHP professional policies related to the responsibilities of pharmacy practitioners in hospitals and health systems.

Pharmacy Student Forum Executive Committee: Jack Iskander (alternate)

The Executive Committee of the ASHP Pharmacy Student Forum directs the activities and programs of the Forum, as well as advises ASHP staff on ways to better meet the needs of ASHP's 10,000 plus student members.

From HIV on page 6

day. Each dose must be taken in combination with ritonavir 100mg and with food in order to achieve effective plasma concentrations. Darunavir is produced in orange tablets containing 300mg of the active drug. The greatest efficacy with darunavir, was obtained in clinical trials for highly treatment-experienced patients in salvage therapy who were co-administered optimized background regimens with enfuvirtide (Fuzeon®) following genotypic and phenotypic resistance testing.

Darunavir is not yet approved for use in children or in antiretroviral-naïve patients. No dosage adjustments are needed in renal impairment. Like most drugs granted accelerated approval, more studies are presently being carried out in order to delineate issues such as use in hepatic impairment and interactions with other drugs. Darunavir is not yet well studied in pregnancy and is classified as FDA Pregnancy category B. Approval of darunavir in the European Union is expected later this year. Adverse events and drug-drug interactions are fairly similar to those seen with the first generation protease inhibitors. Further details on Prezista® are available in the manufacturer's package insert.

Tipranavir is the second of the second generation, non-peptidic protease inhibitors approved for use as salvage therapy in highly-experienced, triple-class-resistant HIV-infected patients. The recommended dose of tipranavir capsules is 500mg (two 250mg caps), co-administered with ritonavir 200mg (two 100mg caps), twice daily with food. Like darunavir, the greatest efficacy in clinical trials was obtained in patients following an optimized background regimen consisting of enfuvirtide and other agents still sensitive to the patient's virus based on both genotypic and phenotypic testing.

Tipranavir has a black box warning for increased intracranial hemorrhage in HIV-infected patients with risk factors for increased bleeding. Adverse events and drug-drug interactions with tipranavir now extend into the domain of the older nucleoside reverse transcriptase as well as some protease inhibitors, making this new agent challenging for both providers and patients. Further details on tipranavir are available in the manufacturer's package insert.

PTCB testing is now computer based!

The next application cycle begins June 18 and closes August 3 for the testing period beginning August 27 through September 28. For more information, go to www.ptcb.org.