



LA HEALTH-SYSTEM PHARMACIST

Newsletter of the Louisiana Society of Health-System Pharmacists

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www.lshp.org

Volume 17, No.1

January/February 2008

FROM THE DESK OF THE PRESIDENT

Greetings from the office of LSHP and the board of directors! We hope everyone had a Merry Christmas and a Happy New Year. I wish this coming year will bring you and your families blessings, joy, health and prosperity. We all are looking forward to having a better year.

I went to two ASHP functions in the past two months. One was the Presidential Officers Retreat in Atlanta and the other was the Mid-Year Clinical Meeting in Las Vegas. I have learned a lot and gathered a lot of information about the future of pharmacy practice. The Presidential Officer Retreat was divided into two major portions. One is for leadership training and the other was ASHP strategic planning. The leadership training session provided an opportunity to discuss the measures of success and identify how leaders can work together to break down silos, focus on core mission, and operate our association's chapters in a remarkable way. Members are the soul and life of the organization. They need to be served right and we must fulfill their needs. The other session was the pharmacy technician initiative. The pharmacy technician initiative is designed to be a well-organized partnership between ASHP and state affiliates to advocate for state law that requires, as a prerequisite for state board registration, completion of ASHP-accredited pharmacy technician training and Pharmacy Technician Certification (PTCB). A core measure of success will include establishing legal and regulatory requirements for the standardization of education and training for technicians. The ultimate value of this initiative is to articulate the expanded scopes of practice for technicians and pharmacists.

Among 9 states representatives, Louisiana is one of the top few that has the programs or regulatory requirements in place for technicians. I am humbled by the vision that the LSHP board had about two decades ago. We went a long way; from pharmacy support personnel to pharmacy technician, to board certified technician, to registered technicians with CE hours, to PTCB certified technicians. But some states are still struggling with the certified and registered technician issues. Despite the reluctance of the professional organizations, the regulatory body and the academic entities to work and link together, we are marching forward. There is one person I want to give special

thanks to and that person is the one who links all these parts together; not only providing better care and a safety net for the public but also helping the pharmacy profession make a great leap in the state of Louisiana-Mr. Malcolm Broussard. We appreciate what you have done for the Pharmacy profession in Louisiana.

ASHP Mid-year Clinical Meeting in Las Vegas was a great success. There was record high attendance with more than 21,300 registrants. Many processes have gone high-tech. This year, there was electronic self-registration and electronic handouts for education sections. All handouts are electronically filed on the website making it convenient to access and print out if needed. For those of you who are interested in new JCAHO standards about Anticoagulant monitoring, ASHP has a program soft-ware at the ASHP Bookstore.

I also attended a 340B section meeting at the MCM. I am surprised that the number of hospitals that have participated in this program has doubled since 2 years ago. The major issue for this program is that CMS requires that all drugs submitted must have NDC numbers by Jan 1st, 2008. Many facilities are not ready for this due to lack of electronic tracking. California and Texas were actively involved in delaying the application and both states have successfully delayed. I have sent out some sample letters to directors of institution pharmacies, to ask for a delay for Louisiana. If you need further information, please do not hesitate to contact me. Best wishes!

Barries Leung, PharmD
LSHP President



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SOUTHWEST-LSHP

VACANT

**Congratulations to the 2008
nominees for the
following LSHP Awards:**

Industry Award:

Sanja Alickovic
Corey Chimento
Chantell Gonzales
Judy Mitchell
Cherie Robertson

**Health-System
Pharmacist of the Year:**

Mark Middlebrooks
Jay Schwab
Mathew Thomas

Outstanding Service:

Michael Cockerham
Tommy Mannino

Technician of the Year:

Amy Bongiovanni
Kenneth Green

Tommy Himel:

Michael Cockerham
Michael Loftin
Tommy Mannino
Michael Walker

**Awards will be presented at the
LSHP Awards Luncheon at the 2008
Annual Meeting on May 24 at the
Hilton Riverside.**

LSHP Bimonthly Newsletter**LA HEALTH-SYSTEM PHARMACIST****Publisher Information**

The *LA Health-System Pharmacist* is published 6 times a year by the LSHP, 8550 United Plaza Blvd., Suite 1001, Baton Rouge, LA 70809. Subscription to the *LA Health-System Pharmacist* is a benefit of LSHP membership. All articles published represent the opinions of the authors and do not reflect the policy of the LSHP unless so specified.

Copy, advertising and nonmember subscription inquiries should be directed to the Copy Editor, Kati Craig, at (225) 922-4520. Advertising rate sheets and deadlines are available upon request.

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

A Mysterious Disease: Transverse Myelitis

Brandon Willis, Pharm.D. Candidate & Mary Gauthier-Lewis, Pharm.D.
ULM College of Pharmacy

Transverse myelitis (TM) is an acute inflammatory process that affects a focal area of the spinal cord. Clinically, TM is characterized by the development of signs and symptoms of neurological dysfunction in motor, sensory, and autonomic nerves of the spinal cord. Symptoms often progress rapidly from minutes to hours in some TM patients, or may progress over days to weeks in others. When the maximal level of deficit is reached, approximately 50% of patients have lost all movements of their legs, virtually all patients have some degree of bladder dysfunction, and 80-94% of patients have numbness, paresthesias or band like dysesthesias.

TM is a rare disorder affecting only about one to four new cases per million people per year. It can affect people of all ages, but tend to show a biphasic peak, with the most common age ranges being 10- 19 and 30-39 years of age. Recovery varies, 33% of patients recover with little or no sequelae, 33% of patients are left with a moderate degree of permanent damage, and the other 33% have little or no recovery and are left severely disabled.

There is no single cause for TM, but in most cases, the clinical syndrome may be a result of damage to nerve tissue by an infectious agent or by the immune system or from a combination of both. Often, TM is diagnosed incorrectly, and one must rule out spinal cord ischemia; arterial, venous and watershed infarcts are commonly misdiagnosed as TM. Any patient suspected of having acute spinal cord dysfunction warrants emergent evaluation. If a patient complains of difficulty urinating or new onset incontinence and a transverse sensory complaint, this should prompt the physician to recommend urgent further evaluation. Many patients are incorrectly diagnosed with Guillain-Barre Syndrome (GBS), but unlike GBS, TM does not present with cranial nerve palsies, and GBS rarely presents with bladder dysfunction or a band like sensory complaint. If there is a delay in obtaining any imaging study and a patient has a rapidly evolving myelopathy, methylprednisolone should be empirically administered as follows: <3 hours from symptom onset- 30 mg/kg bolus over one hour followed by 5.4 mg/kg/hour for 23 additional hours; between 3-8 hours from symptom onset- 30 mg/kg bolus followed by 5.4 mg/kg/hour for an additional 47 hours. If a structural cause is identified for the myelopathy, urgent neurosurgical evaluation is mandatory.

The administration of high dose intravenous steroids is often given once the diagnosis of TM is made. Many physicians initiate treatment with methylprednisolone 1000mg IV QD for 5 days, and this regimen is typically started as soon as the diagnosis of TM

is considered. There is also a small subset of steroid-refractory patients that respond to plasmapheresis.

Since TM is usually a monophasic disorder, treatment of patients following the acute injury focuses on symptom management. TM patients must also be screened for depression since this is quite common and often leads to decreased compliance with physical therapy regimens and adversely affects the ultimate outcome. Simple bladder dysfunction may be treated by anti-cholinergic medicines such as oxybutinin extended release (5-10 mg QD or BID), hyoscyamine (0.15-0.3 mg PO QID), tolterodine (1-2 mg BID) or propantheline (15 mg PO q4-6). Pain or dysesthesias are the most debilitating long-term sequelae in approximately 40 % of TM patients. Symptoms are often managed by treatment with gabapentin (up to 4800 mg/day divided TID or QID), carbamazepine extended release (up to 1200 mg/d divided BID), nortriptyline (up to 100 mg/d given QHS), or tramadol (up to 400 mg/d divided TID or QID). Opioids are usually no more effective than the above medicines and should be avoided if at all possible secondary to constipation and urinary retention side effects. Spasticity is the most common long term problem, affecting virtually all patients with TM and often limits the extent of recovery. Patients may report stiffness, tightness or painful spasms often in the buttocks and legs, but may also occur in the arms. The spasticity may limit the ability to walk. Baclofen (starting at 10mg QD, titrating up to 100-120 mg/d) is often utilized as first line therapy and is effective in approximately 60% of individuals. Fatigue and the development of weakness are potential side effects. Tizanidine (begin at 2 mg/d titrate up to 24-32 mg/d in three divided doses) may also be tried. Diazepam (begin at 5 mg, titrate up to 30-40 mg in three divided doses) may be effective in patients with spasticity not modulated by either tizanidine or baclofen.

References

Kerr DA. Transverse Myelitis. In: Johnson RT, Griffin JW, McArthur JC, eds. *Current Therapy in Neurologic Disease*, 6th ed. Mosby Press; 2001

Krishnan C, Kaplin AI, Deshpande DM, Pardo CA, Kerr DA. Transverse Myelitis: Pathogenesis, Diagnosis, and Treatment. In: *Frontiers in Bioscience* 9, 1483-1499, May 1, 2004

Non-Dihydropyridine Calcium Channel Blockers and Beta-Blockers in the Regression and Treatment of Diabetic Nephropathy

Jack Iskander, Pharm.D. Candidate, Katura Thomas, Pharm.D. Candidate
and Cori M. Brock, Pharm.D.

Diabetes mellitus is a chronic illness characterized by hyperglycemia. Cornerstones in the management of diabetes are the prevention of long-term complications, including chronic kidney disease.

Diabetic nephropathy is responsible for 20-40% of all end-stage renal disease cases in the United States. Often the first clinical manifestation of nephropathy is microalbuminuria (30-299 mg/24 hr of albumin excretion). Further advancement of diabetic kidney disease involves progression to macroalbuminuria, a decline in the glomerular filtration rate (GFR), and elevation in arterial blood pressure. In patients with type 2 diabetes this chain of events is seldom reversible, therefore, it is imperative to prevent or delay progression as soon as possible. Maximum treatment success will be achieved by the clinician who begins treatment for diabetic nephropathy while GFR is only mildly impaired (i.e. >85 mL/min per 1.73m^2), when compared to interventions in those with severe renal dysfunction (i.e. <50 mL/min per 1.73m^2).

The most important factor known to impact the progression of diabetic nephropathy is hypertension. The recommended blood pressure goal in patients with diabetes and chronic kidney disease is 130/80 mmHg. This blood pressure goal has been shown to reduce the progression of diabetic kidney disease and preserve renal function. Research has confirmed that antihypertensives such as angiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) are effective not only to control blood pressure, but to also delay the progression of nephropathy in patients with diabetes. For those patients intolerant to ACE inhibitors or ARBs, additional blood pressure lowering in the presence of albuminuria may be achieved through the use of non-dihydropyridine calcium channel blockers (non-DCCBs) and beta-blockers. The objective of this paper is to determine the efficacy of non-DCCBs and beta-blockers in the regression and treatment of diabetic nephropathy.

The role of non-dihydropyridine calcium channel blockers in diabetic nephropathy

The use of non-DCCBs has been shown to have positive effects when they are used in combination with a renin-angiotensin system (RAS) blocker. In the 2004 PRADID study, antihypertensive treatment in patients with type 2 diabetes was shown to be more effective in patients who were treated with a combination of verapamil SR and trandolapril as opposed to those treated with trandolapril alone. The percentage of patients sustaining a goal diastolic blood pressure of <85 mmHg was significantly higher in those patients taking the

combination verapamil SR and trandolapril (88.8%, P value = .002), when compared to the trandolapril only treatment group (79.1%). In addition to the PRADID study, other studies have also shown that when combined with a RAS blocker, a non-DCCB will provide additional reduction in progression of macroalbuminuria in patients with type 2 diabetes.

The role of beta-blockers in diabetic nephropathy

Beta-blockers have been successful in reducing the risk of death and complications in patients with diabetes. United Kingdom Prospective Diabetes Study showed that atenolol was an effective agent to lower blood pressure. Based upon review, the effects of beta-blockers on the reduction of proteinuria are inferior to their ability to lower arterial pressure. In a study comparing the effects of atenolol versus verapamil SR in African Americans with type 2 diabetes; the patient group taking verapamil demonstrated a slower reduction in their creatinine clearance (-1.7 ± 9 versus -3.7 ± 1.4 ml/min per 1.73m^2 , $P < .01$) and a greater decrease in their proteinuria levels. The atenolol group also showed an increase in their serum creatinine levels. When compared to non-DCCBs, clinicians using this data may choose to avoid beta blockers when treating diabetic nephropathy.

Conclusion

Non-DCCBs have a select advantage in that they offer a reduction in albuminuria, which slows the progression of diabetic nephropathy. Non-DCCBs are good antihypertensives in monotherapy, however, their actions in preventing the excretion of albumin is best observed in combination with an ACE inhibitor or ARB.

Beta-blockers have demonstrated efficacy in decreasing blood pressure in patients with type 2 diabetes. Their effects in reducing urinary albumin are less consistent. Atenolol has shown less reduction in albuminuria when compared to alternative therapies. Research indicates that to slow the progression of diabetic kidney disease, an antihypertensive must reduce both arterial blood pressure and albuminuria; based on this concept, beta-blockers are not the most effective agent for the treatment of diabetic nephropathy.

References Available Upon Request

Byetta®

Laurin Scoggins, Pharm.D. Candidate

Byetta™ (exenatide) is a synthetic incretin mimetic agent used as an adjunct treatment in type 2 diabetes mellitus patients who have inadequate glycemic control with metformin, sulfonylureas, and/or thiazolidinedione therapy¹.

Exenatide mimics the incretin hormone GLP-1 that is found in the gut. When released into systemic circulation it improves glycemic control by several mechanisms. It increases insulin release in response to elevated glucose levels, decreases inappropriate liver glucagon release, and promotes beta cell growth and replication. It also slows gastric emptying and decreases food intake¹.

The starting dose of exenatide is 5mcg twice daily given as a subcutaneous injection in the thigh, abdomen, or upper arm within sixty minutes before morning and evening meals. Based on clinical response, the dose may be increased to 10mcg twice daily after one month of therapy. Exenatide reaches peak plasma levels in 2.1 hours and has a half-life of 2.4 hours. It is eliminated via glomerular filtration¹.

Common adverse effects include nausea, vomiting, diarrhea, and hypoglycemia. Mild to moderate nausea was the most common adverse effect experienced in trial patients (44%); however, with continued use the frequency and duration of nausea decreases over time¹.

Three, thirty-week double-blind, placebo-controlled trials were conducted to evaluate the safety and efficacy of exenatide given in combination with metformin and/or sulfonylureas. Results of these studies reported statistically significant reductions in HbA_{1c} (-0.8), fasting and postprandial glucose concentrations, and body weight (-2.8kg). Additionally, 46% of trial patients achieved a HgA_{1c} of <7%^{2,3,4}.

In a sixteen-week double-blind, placebo-controlled trial, exenatide was added to patients currently receiving

thiazolidinedione +/- metformin treatment. The results of this study reported a statistically significant reduction in HgA_{1c} (-0.8) and body weight (-1.5kg). Additionally, 62.3% of trial patients achieved a HgA_{1c} of <7%⁵.

In conclusion, exenatide has displayed promising results as an adjunct treatment for improving glycemic control and reducing body weight in type 2 diabetes mellitus patients. Currently, there have been no completed clinical trials investigating its use in patients receiving metformin, sulfonylureas, and thiazolidinediones together as a triple therapy¹.

References:

1. Drug Facts and Comparisons. www.factsandcomparisons.com. Accessed June 11, 2007.
2. Kendall DM, Riddle MC, Rosenstock J et. al. Effects of Exenatide on Glycemic Control Over 30 Weeks in Patients with Type 2 Diabetes Treated With Metformin and a Sulfonylurea. *Diabetes Care*.2005;28:5:1083-1092.
3. Buse JB, Henry RR, Han J et.al. Effects of Exenatide on Glycemic Control Over 30 Weeks in Sulfonylurea-Treated Patients with Type 2 Diabetes. *Diabetes Care*.2004;27;11:2628-2635.
4. DeFronzo RA, Ratner RE, Han J et.al. Effects of Exenatide on Glycemic Control and Weight Over 30 Weeks in Metformin-Treated Patients with Type 2 Diabetes. *Diabetes Care*. 2005;28;5; 1092-1100.
5. Zinman B, Hoogwerf BJ, Duran GS, et.al. The Effect of Adding Exenatide to a Thiazolidinedione in Suboptimally Controlled Type 2 Diabetes: A Randomized Trial. *Annals of Internal Medicine*.2007;147;7:477-485.

ULM Student Chapter Update

Kieu Nguyen

ULM LSHP Chapter President

ULM's LSHP Chapter would like to give everyone a warm welcome back! Students who attended ASHP's Midyear meeting in Las Vegas had a blast, stating it was a very valuable experience. The exhibits were great and the company was awesome! Dalia Abdelhalim, P2 (Secretary), present at the Board of Directors meeting in January, was delighted by the invitation and the opportunity to sit in on the meeting.

We hope everyone is ready for a busy semester because our chapter is brewing up a storm! Though dates have not been set, at least two new projects are planned. Our first general meeting will take place in late January. We are planning to have speakers come in to speak with students in February as well as March. A joint meeting with our student chapter of ASP is also being arranged. Two new events that we are very excited about are our Asthma Awareness Program and a community service project with MedCamps. An update will be provided as soon as all the details are worked out. Happy New Year and good luck to everyone this semester!

Xavier Student Chapter Update

Reggie Sylve

Xavier LSHP Chapter Secretary

Welcome back! The Xavier University Student Chapter of LSHP hopes everyone had a wonderful holiday break. We have two meetings planned and several activities for the Spring 2008 semester. Want to make the most out of your rotations? If so, the first LSHP meeting will be for P3 students to hear information about rotations and how to make the most of them. Throughout the semester, we will also participate in several events including:

- Sorting can goods for Second Harvest Food Bank
- Participating in the March of Dimes Annual Fundraiser
- Helping to coordinate community Easter Egg Hunt

We are looking forward to a productive and successful semester!

Avandia®: Controlled Diabetes versus Cardiovascular Risk?

Misa Nguyen, PharmD Candidate

Avandia®, the trade name of rosiglitazone, was approved by the FDA and marketed by GlaxoSmithKline in 1999 for the management of blood sugar levels in patients with type 2 diabetes. Rosiglitazone belongs to a class called the thiazolidinediones which are agonists for the peroxisome proliferators-activated receptor (PPAR). This class of drugs acts on the PPA receptors found in the liver, adipose tissue and skeletal muscle to reduce circulating insulin and maintain glycemic control in non-insulin dependent diabetic patients along with diet and exercise. Rosiglitazone does not have a generic equivalent available and comes in 2, 4, and 8 mg tablets which can be dosed once or twice daily. This drug is often prescribed as monotherapy or with other diabetic medications such as metformin or a sulfonylurea. Other combination products that contain rosiglitazone include Avandamet® (rosiglitazone and metformin) and Avandaryl® (rosiglitazone and glimiperide).

Since its introduction in 1999, over tens of millions of Americans have been prescribed rosiglitazone for hyperglycemic control. Recent issues concerning rosiglitazone's side effects and associated risks have been brought to the attention of health professionals as well as the public. Known side effects of rosiglitazone include possible hypoglycemia, liver problems, fluid retention, edema, weight gain, and possibly life-threatening heart failure. Some of these adverse effects occur as a domino effect. For instance, rosiglitazone can cause fluid retention which in turn will cause weight gain and edema. This can result in worsening of heart problems and eventually lead to heart failure. Rosiglitazone's original approval by the FDA was based on the drug's ability to decrease blood glucose levels and glycated hemoglobin levels. However, rosiglitazone's post-marketing surveillance revealed latent results in regards to the severity of its cardiovascular risks.

On May 21, 2007, Dr. Steven Nissen of the Cleveland Clinic performed a meta-analysis of 42 trials with a focus on rosiglitazone's potential to cause an increased risk of myocardial infarction and deaths due to cardiovascular events amongst type 2 diabetic patients. Nissen was interested in these endpoints because 65% of deaths in diabetes patients are due to cardiovascular events. Therefore, a drug that increased these risks is of great importance to patients on this particular medicine. The 42 eligible trials were small, short, randomized trials that included at least 24 weeks of drug exposure by either the control group or the comparator group. In these trials, 15,565 patients were assigned to receive rosiglitazone as part of their daily regimen while the placebo or active comparator group included 12,282 patients that were naïve to rosiglitazone as part of their regimen.

The outcomes of the 42 trials that were analyzed in Nissen's meta-analysis showed 86 incidences of myocardial infarction and 39 cardiovascular deaths in the patients that received rosiglitazone. On the other hand, 72 patients that had a myocardial infarction and 22 cardiovascular deaths occurred in the control group. These results lead Nissen to conclude that there was a significant increase in the risks of myocardial infarction as well as a trend of increased cardiovascular death possibly linked to the use of rosiglitazone.

Nissen mentioned several limitations while performing the meta-analysis of rosiglitazone versus placebo on cardiovascular outcomes. For instance, he stated that he did not have access to original source data. Therefore, he was unable to investigate the time-to-event results as well as the time course of the risks that occurred. More importantly, the trials that he analyzed were not originally designed to focus on cardiovascular events as a result of medication use. Rather, they were directed towards the ability of rosiglitazone to lower blood sugar levels along with glycated hemoglobin levels. It was also noted that the data available was insufficient to accomplish a dose-response analyses.

As a response to Nissen's findings, the FDA took action to warn patients as well as health care professionals about the heart related risks associated with the use of rosiglitazone. The FDA did not ask GlaxoSmithKline to take immediate or specific action at the time due to pending questions such as the validity and clinical significance of the meta-analysis or whether these risks are associated with a class effect. However, rosiglitazone was relabeled with stronger warnings indicating the potential risk of heart attacks associated with heart related chest pains. These warnings were based on a controlled clinical trial in patients with congestive heart failure. The FDA reassured the public that they continue to monitor a drug's efficacy and safety profile even after it has been approved, and they update warning labels as potential risks are confirmed through valid and available data.

On August 14, 2007, a Boxed Warning was added to the labeling of Avandia®, Avandamet®, and Avandaryl® in addition to other drugs in the same class such as Actos® (pioglitazone) and Duetact® (pioglitazone and glimiperide). However, there are controversial opinions in regards to whether the increased cardiac effects are a class related effect. According to some expert opinions, Actos® has a better side effect profile due to the focused outcomes of cardiovascular events of the PROACTIVE trial. The Boxed Warning on Avandia's® label is as follows:

Continued on page 7

From AVANDIA, page 6

Warning: Congestive Heart Failure

- Thiazolidinediones, including rosiglitazone, may cause or exacerbate congestive heart failure in some patients (see WARNINGS). After initiation of AVANDIA, and after dose increases, observe patients carefully for signs and symptoms of heart failure (including excessive, rapid weight gain, dyspnea, and/or edema). If these signs and symptoms develop, the heart failure should be managed according to current standards of care. Furthermore, discontinuation or dose reduction of AVANDIA must be considered.

- AVANDIA is not recommended in patients with symptomatic heart failure. Initiation of AVANDIA in patients with established NYHA Class III or IV heart failure is contraindicated. (See CONTRAINDICATIONS and WARNINGS).

The FDA encourages physicians to closely monitor their patients on rosiglitazone for signs and symptoms of heart failure such as shortness of breath, rapid and excessive weight gain and edema. Patients that develop heart failure should be managed accordingly, and their drug therapy with rosiglitazone should be re-evaluated. It is now up to the discretion of physicians as well as patients to decide whether the risk versus benefit profile of rosiglitazone indicates an advantage to patients' management of type 2 diabetes.

References:

Hughes, Sue. Rosiglitazone Increases MI and CV Death in a Meta-Analysis. May 21, 2007. Accessed on May 21, 2007 at <http://www.medscape.com/viewarticle/557037?sssdmh=dm1.273173&src=ddd>.

GlaxoSmithKline. Avandia (Rosiglitazone maleate) Prescribing Information. Accessed on August 18, 2007 at http://www.fda.gov/cder/drug/infopage/rosiglitazone/rosiglitazone_label20070814.pdf.

GlaxoSmithKline. Avandia: Rosiglitazone maleate. Accessed on August 18, 2007 at <http://www.avandia.com/avandia.html>.

Nissen SE, Wolski K. Effect of rosiglitazone on the risk of myocardial infarction and death from cardiovascular causes. *N Engl J Med*. May 21, 2007. (Available in print in June 14, 2007 issue.) Accessed on August 3, 2007 at <http://content.nejm.org/cgi/reprint/356/24/2457.pdf>.

U.S. Food and Drug Administration. Manufacturers of Some Diabetes Drug to Strengthen Warning on Heart Failure Risk: Companies Will Include Boxed Warning on Drug Label. August 14, 2007. Accessed on August 20, 2007 at <http://www.fda.gov/bbs/topics/NEWS/2007/NEW01683.html>.

Technician's Corner

2008 PTCB Testing Information

Application Window Opens	Application Deadline	Testing Opens	Testing Closes
February 19	April 4	April 28	June 20
June 10	July 25	August 18	September 26
September 2	October 17	November 10	December 19

For more information, visit www.ptcb.org.

It's membership renewal time!

If you haven't sent in your membership renewal, please do so soon! We want you as a member!

Have co-workers that aren't members? Encourage them to become active in a professional organization and join LSHP! Membership applications are available at www.lshp.org!

LSHP 2008 Annual Meeting
May 22-24, 2008
New Orleans Hilton Riverside

Save the date!

The Annual Meeting is later this year, so be sure to note the date when making your schedules for the Spring!

Book a room!

Call the Hilton Riverside at (504) 561-0500 or 1-800-HILTONS to book your room. Be sure to tell them you are with LSHP to receive the group room rate of \$179 for a single or double room. Be sure to book by April 21!

Learn a lot!

The program committee is working hard to book speakers to present on topics you want to know about! You will be able to earn approximately 17 ACPE-accredited hours in programs covering topics such as: Pain Management, USP 797, Communication Skills, Antimicrobial Stewardship, Automation, New Drugs and Pharmacy Law.

Take part!

Information will be distributed soon regarding the interactive poster session. You will also have the opportunity to visit with vendors from many pharmaceutical companies during our exhibition.

Network!

As always, the Thursday Welcome Reception will offer a chance to visit with old friends and create new relationships with pharmacists, pharmacy technicians and students from across the state, and in many different practice settings.

Honor the best of LSHP!

The Saturday Awards lunch will feature ASHP President-Elect Kevin Colgan, and honor the winners of the Annual LSHP Awards.

Keep an eye out!

More information to follow. Watch your mailboxes and the LSHP website, www.lshp.org!