



# Oklahoma Society of Health-System Pharmacists

October - December 2006

Visit our website at [www.oshp.net](http://www.oshp.net)

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**Mark your Calendar**

**OSHP Board Meetings**  
OUCOP (OKC and Tulsa)  
First Wed. of each month, 3 PM

**AACP Interim Meeting 2007**  
Arlington, VA  
February 4<sup>th</sup>-7<sup>th</sup>, 2007  
For information, go to [www.aacp.org](http://www.aacp.org)

**National Poison Prevention Week**  
March 18<sup>th</sup>-24<sup>th</sup>, 2007

**OSHP Annual Meeting**  
Oklahoma City, OK  
April 13<sup>th</sup>, 2007  
(Stay tuned for more details.)

**ACCP Spring Meeting**  
Memphis, TN  
April 21<sup>st</sup>-25<sup>th</sup>, 2007  
For information, go to [www.accp.com](http://www.accp.com)

## FROM THE PRESIDENT...

**Jenean Young, Pharm.D.**



Happy New Year to all! This time of year allows a fresh start and a chance to clean out the cobwebs as well as to implement resolutions. For many of us, the beginning of 2007 has been treacherous, to say the least. This ice storm of 2007 is affecting the pharmacy profession both at home and at work across the state. I do hope that you have been safe and warm throughout this ordeal.

I was able to attend the ASHP Midyear Clinical Meeting in Anaheim, CA, in December. It was nice to see so many acquaintances, as well as to meet many other affiliate presidents in the organization. For me, I think the highlights of this meeting were the Presidents Dinner and the Oklahoma Reception. The Oklahoma Reception was very well attended; in fact, it was so crowded that it was hard to even get in the door! There were so many Oklahoma pharmacists, faculty, residents, and previous students having a great time seeing each other once again. OSHP owes a huge thanks to Yvette Morrison for coordinating this event.

Please mark your calendars because the 2007 OSHP Annual Meeting will be held on April 12-13<sup>th</sup> in Oklahoma City. Like the successful Fall Meeting in October, there will be some varied topics and hopefully presentations by the ASHP organization. The evaluations submitted by attendees of the Fall Meeting were very positive, and the turnout was very good. I do want to thank all of the members that supported this meeting by attending and providing critical feedback. Lastly, I do wish to thank Nancy Brahm for agreeing to take charge of this meeting and the success that it provided.

I hope to see you at the Annual Meeting in April, and in the mean time, stay safe and warm!

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**Members: Don't forget to update your professional information with OSHP.**

This includes changes in your address, e-mail, and membership status (e.g., from student to pharmacist). You can do this on our website at [www.oshp.net](http://www.oshp.net).



**Have you checked out the OSHP website lately?**

Thanks to Ben Welch, our webmaster, for all the great changes! Don't forget about this great resource.

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**STAY INFORMED...OSHP BOARD MINUTES ARE NOW AVAILABLE ON THE WEBSITE ([WWW.OSHP.NET](http://WWW.OSHP.NET))**



## OPhA LEGISLATIVE COMMITTEE UPDATE

*Submitted by: Wiley "Butch" Williams, D.Ph., J.D.*

*OSHP Legislative Committee Chair and OPhA Legislative Committee Chairperson*

I was appointed by the Executive Director and approved by the Board of Directors to serve as Chairperson of the Legislative Committee for the Oklahoma Pharmacists Association for 2007. The first meeting of the Legislative Committee was held on January 10<sup>th</sup>, 2007. The meeting was well attended with around 30 individuals in attendance. There were representatives from industry, hospital, independent and chain retail pharmacies, the Oklahoma Poison Control Center, the Oklahoma State Board of Pharmacy, and both colleges of pharmacy. As Chairman, I was extremely pleased with the group dynamics and dialogue. I think the discussion that impressed me most concerned collaborative drug therapy management. That initiative is alive and well. Based on the dialogue, it appears that representatives of both the independent and large retail chains are very interested in developing and implementing regulations that encourage and support collaborative drug therapy management. I am extremely encouraged.

As you would expect from a legislative committee, a majority of the meeting centered around the 2007 Oklahoma legislative calendar and discussions related to the OPhA PharmPAC. I cannot emphasize enough the importance of contributing to the PharmPAC. In today's political environment, a profession such as pharmacy has to have a strong and well-funded PAC in order to have our collective voice heard. I encourage every pharmacist to donate something to the PAC. Look at it as an investment in you and your chosen profession. So please contribute as much as you feel you can afford. If there is any wisdom I have gained over the years in dealing with legislative issues, it is the importance of access to high-ranking members of the legislature. I don't mean to imply that you have to be able to buy access, but it sure doesn't hurt if our lobbyist can start a conversation reminding a legislator that the pharmacy organization contributed to his campaign or party. The other thing you have to remember is that if there is any competing interest group opposing something favorable, or promoting something detrimental to our profession, they will be out there with their wallets open. We might have collaborative drug therapy today if not for the strong physician's PAC that opposed our efforts several years ago.

I am pleased to report that OPhA has retained the services of an excellent lobbyist to promote issues of importance to the PharmPAC. Clayton Taylor and OPhA Executive Director Phil Woodward work together as lobbyists to promote and monitor issues related to the practice of pharmacy and the pharmaceutical industry. Clayton and Phil have done excellent work in reporting to OPhA and the legislative committee.

At the start of this session the OK PharmPAC reported that it had about \$4,000 in the PAC. Although we are excited to have that money available, in my opinion, that is far less than it should be. There are about 3,500 licensed pharmacists living in Oklahoma. If each one would just contribute \$20.00 per year, that would generate \$70,000 annually. That amount doesn't have to be spent each year, and we could develop a growing account that can be available when we have really big issues. With your help this can become reality.

I will conclude with some thoughts on the issue of collaborative drug therapy. I was excited after the committee meeting. I think more and more retail pharmacists are realizing that the profit margin for filling prescriptions is shrinking. It is time to think outside of the box and step into a zone, which might not be comfortable, but is necessary, especially if we are going to preserve pharmacy as a true healthcare profession. Collaborative drug therapy offers that opportunity. However, implementing new rules and regulations is just the beginning. We have to develop the skills and confidence necessary to let physicians and consumers know that we are and can be a vital and necessary piece of their health care solutions. I hope that my intuition about the increased interest of other health-systems pharmacists in the issue of collaborative drug therapy is accurate. If so, I think we have an excellent opportunity to move forward on this issue. I will keep working from my position to promote the development and adoption of rules and regulations related to collaborative drug therapy, and I also encourage you to write to the State Board of Pharmacy promoting this important issue.

### Mark Your Calendar!

The annual **Oklahoma Pharmacists Association Legislative Day and Reception** is Tuesday, February 27<sup>th</sup>, 2007. The legislative briefing will begin at 10 AM in the OPhA office large conference room, and the reception will start at 5 PM at the OU Faculty House on Lincoln Blvd. Support your profession, and try to attend this very important event.

### Pharmacists Featured on NBC News

NBC Nightly News on January 22<sup>nd</sup> broadcast a story on how pharmacists in Asheville, NC, are paid by the city to help people with diabetes manage their condition and save the city money on health care expenditures. Could OK be next?



Congratulations to the following lucky OSHP member who won the \$100 prize for recruiting someone to join our fine organization during the recent membership drive:  
  
Ann Thompson from the Western District



**2006 Fall Meeting**

**Education Offered:**  
6 contact hours  
(0.6 CEUs)  
ACPE-accredited

**Meeting Attendance:**  
67 people attended the Fall Meeting.

**Residency Showcase:**  
7 booths represented multiple different residency programs.

**Special thanks to the following for their support of the meeting:**  
Sanofi-Aventis



# OSHP District Update

## **Western District**

**Recent Meeting:** January 18<sup>th</sup>, 2007  
Topic: Evolving Antithrombotic Therapy in ACS  
Speaker: W. Jeffery Sievert, Pharm.D.  
Location: Boulevard Steakhouse, Edmond, OK

**Upcoming Meeting:** February 22<sup>nd</sup>, 2007  
Topic: VTE Awareness  
Speaker: Jay Groce, Pharm.D., CACP  
Location: TBA

**Upcoming Meeting:** March meeting will be the rescheduled November meeting (colon cancer) that was cancelled due to inclement weather.

## **Eastern District**

**Recent Meeting:** November 16<sup>th</sup>, 2006  
Topic: Erythropoietic Agents in Chemotherapy  
Speaker: Byron Peters, R.Ph.  
Location: Flavors Restaurant, Tulsa, OK

**Recent Meeting:** January 18<sup>th</sup>, 2007  
Topic: Automation and Pharmacy  
Speaker: Melinda Cummings Joyce  
Location: Gilcrease Museum, Tulsa, OK

**Upcoming Meeting:** March 2007



**Welcome New Members:**

<b>Timothy Anderson</b> Maria Bates	<b>Kaysey Cloud</b> Jessica Cottreau	<b>Thomas Hildebrant</b> Cristina Kinkade
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## **Scenes From the OSHP Fall Meeting Held November 3<sup>rd</sup>, 2006 at the Renaissance Hotel and Conference Center in Tulsa, OK**



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# Pharmacy Technology: The Wave of the Future

**Submitted by: Erin Claiborne, Clinical Pharmacy Coordinator, and Marc Rafferty, Director of Pharmacy, Jane Phillips Medical Center**

## Check it Out!

**This is a new section in our newsletter that highlights different areas of pharmacy practice. If you are doing something interesting that may benefit others, then please contact the OSHP Newsletter Committee so we can profile you. Don't keep it to yourself . . . brag about your area of practice!**



Brian Welch, RN using the IntelliDOT CAREt handheld device to scan a medication at the patient's bedside

Jane Phillips Medical Center, a 144-bed hospital, located in Bartlesville, OK, is committed to providing the best in modern health care while reducing medication errors. Jane Phillips has implemented not only a barcode medication administration solution but also smart pump technology. Both systems were implemented in 2006 under the leadership and direction of Marc Rafferty and Erin Claiborne.

The pharmacy staff at Jane Phillips Medical Center is constantly looking for ways to improve and enhance the delivery of medication. We are committed to doing whatever it takes to help reduce the potential for errors. We know that medication errors are not necessarily the result of any lack of diligence by clinicians but instead are strongly affected by the complex and error-prone environment common in hospitals today.

In searching for a bedside bar coded medication administration system, it was imperative that we found the right technology to meet the unique needs of our facility. That is why we were so pleased to discover the CAREt System from IntelliDOT Corporation. Most medication error-prevention systems rely on off-the-shelf hardware like laptops set up on carts or complicated and bulky PDAs. After closely studying the options, we determined that these products presented serious nursing-usability challenges. The CAREt System from IntelliDOT is custom-designed specifically for the caregivers who use it. The unique system design provides a dedicated handheld device that stays with each working nurse, allowing individualized alerts to be sent directly to the device. By scanning a patient wristband, the CAREt handheld guides each nurse through all required medication administration and documentation tasks that have accumulated for their patients. Information is presented in a clear and organized manner to the nurse working at the bedside.

The CAREt device has also allowed us to capture clinical documentation with the ability to create customized clinical prompts. We have improved documentation of JCAHO required elements (i.e., pain scale documentation) by forcing nurses to complete the required information before completion of medication administration.

The implementation took place hospital-wide in eight distinct nursing units, including a CCU, over a period of 2 months. The first unit went live in July 2006, and the last unit completed the hospital-wide implementation in September 2006. The BCMA team consisted of members from pharmacy, nursing, and information technology. The smooth implementation can be attributed to the teams' careful planning of each step in the project. The pharmacy preparation was really not as difficult as we originally anticipated, but it was extremely vital to the success of the project. If a nurse has a medication at the bedside that either does not have a barcode, or the barcode is not in the system, then the process will become much more time consuming to her and heighten her frustration and acceptance of the system.

Our success with the CAREt System can be measured by improved medication safety. As we prepared to implement the CAREt System at Jane Phillips, we set up an error study that would compare error rates before and after nurses began using the system. Prior to the implementation, we knew we were making errors, but we did not know the intensity of these errors until we captured the pre- and post-implementation data. As demonstrated in the chart on the next page, the results were impressive. Total errors were reduced by 66%, and serious errors dropped to zero.

## Pharmacy Technology *(continued)*

For more information relating to this article, please contact:

Erin Claiborne at [eclaiborne@jpmc.org](mailto:eclaiborne@jpmc.org).

	Error Study Results: 22 bed Telemetry Unit	
	<u>Pre-IntelliDOT</u>	<u>Post-IntelliDOT</u>
Med administration observations:	250 (100%)	250 (100%)
Total Errors	51 (20.4%)	17 (6.8%) timing only
Serious Errors	5 (2%)	0 (7 near misses)
Patient not identified per policy	247 (98.8%)	0
Clinical parameter charted per policy	4 of 15 (26.6%)	27 of 27 (100%)
Total errors = Wrong time		Serious Errors = Wrong med
Wrong route		Wrong patient
Wrong dose		Wrong dose
Wrong med		
Wrong patient		



## Chapter News



### ❖ OSHP DELEGATE ELECTION

Congratulations to Barbara Poe, DPh, MBA (Director of Pharmacy, Norman Regional Health System) and Darin Smith, Pharm.D., (Manager of Clinical Pharmacy Services, Norman Regional Health System) who were both elected Oklahoma Delegates to the ASHP House of Delegates. Mark Gales, Pharm.D. (Professor of Pharmacy Practice, SWOSU) was elected last year and will be serving the second year of his two-year term.

### ❖ CONTINUING EXCELLENCE AWARD APPLICATIONS DUE BY MARCH 1<sup>ST</sup>, 2007

OSHP members are encouraged to apply for the Society's Continuing Excellence Award. Applicants are evaluated based on attainment of a required level of activity in three categories of service. For more information or to forward your application, e-mail Michelle Splinter, Pharm.D., M.S., at [michele-splinter@ouhsc.edu](mailto:michele-splinter@ouhsc.edu).

### ❖ HOSPITAL PHARMACIST OF THE YEAR NOMINATIONS DUE BY MARCH 15<sup>TH</sup>, 2007

Nominations for this prestigious award must be received by Ben Welch no later than March 15<sup>th</sup>, 2007.

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## Oklahoma Reception at the ASHP Midyear Clinical Meeting (Sunday, December 3<sup>rd</sup>, 2006)

Sponsored by: *The Oklahoma Society of Health-System Pharmacists, Southwestern Oklahoma State University College of Pharmacy, and The University of Oklahoma College of Pharmacy*



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Special thanks to Yvette Morrison for coordinating this event!!

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The intention of clinical pearls is to highlight information regarding various therapeutic topics pertinent to health-system pharmacy practice. If you or your institution has information, protocols, etc. and are willing to share, please contact the OSHP Newsletter Committee.

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## Lorazepam Infusions

Submitted by: Janet R. Pelzel, Pharm. D., Pharmacy Practice Resident  
OKC VA Medical Center

### QUESTION:

What stability information does the literature offer with regard to lorazepam infusion concentration?

### ANSWER:

The most common stability problem associated with lorazepam infusion is precipitation. The same concentration of organic cosolvents are used for both the 2 mg/mL and the 4 mg/mL commercially available concentrations.<sup>1,2</sup> Therefore, upon admixture, these commercially available concentrations yield different propensities to induce precipitation if diluted to the same final concentration. One report demonstrated precipitation when diluting the 4 mg/mL commercially available concentration to 1 mg/mL; whereas, the 2 mg/mL commercially available concentration remained stable when diluted to 1 mg/mL.<sup>1</sup> It is recommended that the 4 mg/mL commercially available concentration be used to prepare a final concentration of 2 mg/mL and the 2 mg/mL commercially available concentration be used to prepare a 1 mg/mL or lower final concentration.<sup>3,4</sup>

The most problematic final concentrations appear to be between 0.08 mg/mL and 1 mg/mL; whereas, final concentrations of 1 mg/mL, 2 mg/mL, or less than 0.08 mg/mL were considered to be the most stable.<sup>1,5</sup> The use of lorazepam 0.5 mg/mL in normal saline has resulted in precipitation, but it may persist in solution longer if prepared from a 2 mg/mL concentration in order to yield a relatively higher concentration of organic solvent.<sup>1,6</sup> The use of 0.2 mg/mL has been found to be stable when prepared with the 2 mg/mL commercially available product.<sup>6</sup> The manufacturer and other sources recommend diluting lorazepam with an equal volume of a compatible diluent—normal saline or dextrose 5% in water.<sup>7,8</sup> Dextrose 5% in water is considered the preferred diluting solution because normal saline is more likely to crystallize.<sup>9</sup> As always, lorazepam infusions should be closely inspected for discoloration and/or precipitants.<sup>1</sup>

Another stability issue is sorption when used with polyvinyl chloride (PVC) sets and containers, with lower concentrations undergoing more extensive losses. Larger losses are present with higher temperatures.<sup>1,2</sup> The use of polyolefin material significantly reduces loss by sorption.<sup>1</sup> One source recommends that only 12 hours of infusion solution be prepared at a time.<sup>9</sup>

In summary, the recommended commercially available concentration for admixing is the 2 mg/mL concentration due to the resulting higher level of organic cosolvent in the final admixture. The 4 mg/mL commercially available concentration should be used when a final concentration of 2 mg/mL is desired. Final concentrations of 1 mg/mL, 2 mg/mL, and less than 0.08 mg/mL are the most consistently stable dilutions. The use of PVC material should be avoided, and dextrose 5% in water may be the preferred diluting agent due to fewer reports of precipitation. Lorazepam intravenous solution should always be prepared with an equal volume of a compatible diluent.

\*\*Reminder: Clinicians employing high-dose continuous infusions of lorazepam (greater than 0.1 mg/kg/hour) for longer than 48 hours need to be aware of the potential for propylene glycol toxicity.<sup>10</sup>

### REFERENCES:

1. Trissel LA. *Handbook on injectable drugs*. 14<sup>th</sup> Ed. Bethesda, MD: American Society of Health-System Pharmacists; 2007. Pg 1023.
2. Micromedex Healthcare Series, electronic version. Thomson Micromedex, Greenwood Viillage, CO, USA. Available at [www.thomsonhc.com](http://www.thomsonhc.com). (Accessed November 14, 2006)
3. Trissel LA. *Stability of compounding formulations*. 3<sup>rd</sup> Ed. Washington DC: American Pharmacists Association; 2005. Pg 261.
4. Share MJ, Harrison RD, Folstad J, Fleming RA. Stability of lorazepam 1 and 2 mg/ml in glass bottles and polypropylene syringes. *Am J Health-Syst Pharm*. 1998. 55(19):2013-5.
5. Volles DF. More on usability of lorazepam admixtures for continuous infusion. *Am J Health-Syst Pharm*. 1996. 53:1850.
6. Lugo RA, MacKay M, Rusho WJ. Stability of lorazepam 0.2 mg/mL, 0.5 mg/mL, and 1 mg/mL in polypropylene syringes. *J Pediatr Pharmacol Ther*. 2001;6:122-9
7. Lexi-Comp Online™ in UpToDate. Waltham, MA: UpToDate Online; 2006; (Accessed November 14, 2006)
8. Product information for lorazepam. Baxter Healthcare Corporation. Deerfield, IL 60015. [www.baxter.com/products/anesthesia/anesthetic\\_pharmaceuticals/downloads/lorazepam.pdf](http://www.baxter.com/products/anesthesia/anesthetic_pharmaceuticals/downloads/lorazepam.pdf). Rev July 2003. (Accessed November 14, 2006)
9. Gahart BL and Nazareno AR. *2007 intravenous meds*. 23<sup>rd</sup> Ed. Pg 797. St. Louis, MO: Mosby-Elsevier; 2007.
10. ADR Prevent-ERR™. IV lorazepam infusion and propylene glycol toxicity. *ISMP Medication Safety Alert!* February 2006. 11(3):3.

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## **OUCOP Student Chapter Report**

**Advisor: Michele Splinter**

The OU College of Pharmacy student chapter of OSHP held its annual Clinical Skills Competition in October 2006. The winning team of Lauren Hromas Snodgrass and Ashley Higginbotham represented the college in the National Clinical Skills Competition at the 41<sup>st</sup> ASHP Midyear Clinical Meeting in Anaheim, California, in early December.

Bimonthly meetings continue to be held throughout the year at the college. In October, Dr. Debbie Poland, a recent graduate of OU, spoke about her position in emergency medicine at Norman Regional Health System. In November, a panel of current residents convened to address students' questions about residencies and how they are structured. Students also continue to attend the Western District Meetings on a regular basis. We are honored to have the upcoming speakers: Dr. Janine Young, the current OSHP President; Dr. Susan Fugate, an Associate Professor at OU and Anticoagulation Pharmacist; and Dr. Teresa Cooper, a Clinical Oncology/Bone Marrow Transplant Pharmacist at St. Francis in Tulsa.

This spring we plan to continue our promotion of poison prevention with a community service activity. Our chapter will also sell embroidered fleece blankets as a fundraiser to help with general chapter expenses. We look forward to another great semester.

OFFICERS	SPRING 2006- SPRING 2007
President	Jennifer Gass
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Vice President	Amanda Bishop (OKC), Katherine O'Neal (Tulsa)
Secretary	Lisa Mayer
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## **SWOSU Student Chapter Report**

**Advisors: Erin Callen, Mark Gales, Virgil Van Dusen, Nancy Williams**

The SWOSU College of Pharmacy student chapter of OSHP is expecting a productive spring semester and new growth. This past December, we sent seven students to the national ASHP Midyear Clinical Meeting in Anaheim, California. Students who attended have reported back that they enjoyed the conference, made professional contacts, and plan to share their experiences with our local chapter. Additionally, Brooke Honey and Heidi Villines proudly represented our school in the ASHP Clinical Skills Competition.

Our student chapter will continue its tradition of bimonthly meetings that feature presenters from a wide array of health-system pharmacy practice. We have tentatively scheduled Dr. Patrick Medina, an OU College of Pharmacy faculty member who specializes in oncology, to speak in February. Dr. Randall Sharp, a cardiology specialist from Heart Solutions of Oklahoma, will be visiting in March to discuss his career of practicing clinical pharmacy in a cardiac unit.

We also plan to continue our ongoing service project of making door decorations for hospice patients at the Trinity-New Seasons Hospice in Weatherford. Additionally, our chapter will plan an educational activity for Poison Prevention Week this March. We anticipate another great semester.

OFFICERS	SPRING 2007
President	Cassi Mettry
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Secretary	Jaime Miller
Treasurer	Donovan Fuller
Fundraising Chairs	Beverly Medcalf and Melissa Gloden



**WATCH FOR UPCOMING ISSUES OF THE OSHP NEWSLETTER**

January-March 2007, April-June 2007