



Oklahoma Society of Health-System Pharmacists

July - September 2006

Visit our website at www.oshp.net

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2006-2007:

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Mark your Calendar

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

OSHP Fall Meeting
Renaissance Hotel & Conference
Center, Tulsa, OK
November 3, 2006

ASHP Midyear Clinical Meeting
Anaheim, CA
December 3-7, 2006
For information, go to www.ashp.org

**Oklahoma Reception at the
ASHP Midyear Clinical Meeting**
Hilton Anaheim, Malibu Room
December 3, 2006, from 5:30-7 pm

AACP Interim Meeting 2007
Arlington, VA
February 4-7, 2006
For information, go to www.aacp.org

FROM THE PRESIDENT...

Jenean Young, Pharm.D.



Well, fall is in the air, and the holidays are just around the corner! This change of seasons also means that our Fall Meeting is coming up. This year, it will take place in Tulsa at the Renaissance Hotel on Friday, November 3rd. There will be a variety of topics and opportunities to earn continuing education credits. It is always a good venue for networking and honing up on some clinical skills.

Along with this time of year, it seems that most of the society conventions take place. This year the ASHP Midyear Clinical Meeting will be held in Anaheim, California, from December 3rd -7th. OSHP is joining both colleges of pharmacy to sponsor an Oklahoma Reception at the Hilton Hotel on Sunday, December 3rd. For those of you attending the Midyear meeting, please stop by to enjoy the refreshments.

On another note, the society has seen a downward trend in membership renewals. The Board voted to sponsor a membership rally for the November and January 2007 district meetings. If you bring a potential member to either of these meetings, and the candidate joins OSHP, your name will be submitted for a drawing of \$100. Your help in membership drive efforts are greatly appreciated, plus you could be one of the lucky winners!

I do hope this letter finds everyone well, and I look forward to seeing those of you that can make it to the Fall Meeting in November!

OSHP Delegate Report (June 2006)

OSHP was represented by elected delegates Mark Gales, Barbara Poe, and Dennis Thompson at the recent ASHP Summer Meeting in Orlando, Florida. The 58th Annual Session of the House of Delegates was held on Sunday, June 25th and Tuesday, June 27th, 2006. In preparation, all three delegates attended the Regional Delegate Conference in Dallas, TX, this past May. Additionally, prior to the first session, delegates participated in the Open Hearing as well as various caucus meetings to better acquaint themselves with the issues up for discussion, debate, and approval.

(continued)

**STAY INFORMED...OSHP BOARD MINUTES ARE NOW
AVAILABLE ON THE WEBSITE (WWW.OSHP.NET)**



OSHP Delegate Report *(continued)*

The following policies were submitted by their respective Councils for review, discussion, amendment, and approval:

Commission on Therapeutics

- A. Universal Influenza Vaccination

Council on Administrative Affairs

- A. Medication Management for Patient Assistance Programs
- B. Medication Abbreviations
- C. Pharmaceutical Distribution Systems
- D. Pharmacist Leadership of the Pharmacy Department

Council on Educational Affairs

- A. Quality of Pharmacy Education and Expansion of Colleges of Pharmacy
- B. Interdisciplinary Health Professions Education

Council on Legal and Public Affairs

- A. Federal Licensing of Drug Distributors
- B. Direct-to-Consumer Advertising of Prescription and Nonprescription Medications
- C. Pharmacist's Right of Conscience and Patient's Right of Access to Therapy
- D. Redistribution of Unused Medications
- E. Streamlined Licensure Reciprocity
- F. FDA Authority to Prohibit Reuse of Brand Names

Council on Organizational Affairs

- A. Periodic Reexamination of ASHP's Organizational Structure and Governing Process

Council on Professional Affairs

- A. Safe Disposal of Patients' Home Medications
- B. Influenza Vaccination Requirements to Advance Patient Safety and Public Health
- C. Safe and Effective Extemporaneous Compounding
- D. Accreditation of Compounding Facilities
- E. Elimination of Surface Contamination on Vials of Hazardous Drugs
- F. Integrated Team-Based Approach for the Pharmacy Enterprise
- G. Pharmacist's Role in Medication Reconciliation
- H. Costs and Benefits of Clinical Pharmacy Services

At the Sunday session of the House of Delegates, there was considerable debate on policy recommendations from the Councils with eleven proposed policies amended at the first session of the House. Ten of the eleven were approved by the ASHP Board of Directors. Significant discussion and debate were focused on the subjects of influenza vaccination requirements, the pharmacists' role in medication reconciliation, safe disposal of patients' home medications, and several educational issues. Please contact one of your Oklahoma Delegates (dennis.thompson@swosu.edu, bpoe@nrh-ok.com, mark.gales@swosu.edu) or ASHP (www.ashp.org) for further information regarding any of the above policies.

The ASHP Nominations Committee presented the list of candidates for President, Board of Directors, and Chair of the House of Delegates. Since June, ASHP elections have been held, and Janet Silvester (Virginia) was elected President-Elect, while Kathryn R. Schultz (Minnesota) and James G. Stevenson (Michigan) were elected to three-year terms on the ASHP Board of Directors. By a majority vote of delegates present, Teresa J. Hudson (Arkansas) was elected to a first term as Chair of the ASHP House of Delegates.

Finally, many of ASHP's activities occur within the framework of the



Can you guess who this little cutie is?
Hint . . . She's very active in OSHP and was a past president. See page 3 for the answer.

Attention Potential Authors:

If you or a colleague is interested in submitting an article for publication in the OSHP Newsletter, please contact the OSHP Newsletter Committee or a Board Member.

Newsletter Committee
Co-Chairs are Darin Smith and Nancy Williams:

dsmith@nrh-ok.com
nancy.williams@swosu.edu

OSHP Delegate Report (continued)

organizational Leadership Agenda, which is a set of guiding principles that help ASHP focus on the most pressing challenges facing the profession. The five items in the Leadership Agenda for 2006-2007 are:

- A) Improve medication-use safety in hospitals and health systems.
- B) Expand access to the patient care services of hospitals and health-system pharmacists.
- C) Foster an adequate supply of qualified practice managers, pharmacists, and pharmacy technicians in hospitals and health systems.
- D) Foster evidence-based medication use in hospitals and health systems.
- E) Help hospital and health-system pharmacists deal with the affordability and accessibility of pharmaceuticals.

Please refer to the ASHP website for more information.

Your Oklahoma delegates thank the membership for this opportunity to represent the health-system pharmacists in Oklahoma in the ASHP House of Delegates.



OSHP District Update

Western District

Recent Meeting: August 24th, 2006
 Topic: Treatment of Invasive Yeast
 Speaker: John Cleary, Pharm.D., FCCP
 Location: Vito's Ristorante, OKC, OK

Recent Meeting: September 21st, 2006
 Topic: Wound Management
 Speaker: Ronald Squires, MD
 Location: Bourbon Street, OKC, OK

Upcoming Meeting: November TBA

Eastern District

Recent Meeting: September 21st, 2006
 Topic: Diabetic Neuropathy: Take Control
 Speaker: Dr. James McNeer
 Location: Ti Amos Italian Restaurant, Tulsa, OK

Recent Meeting: October 5th, 2006
 Topic: Infectious Disease Update
 Speaker: Neil Klutman
 Location: Spaghetti Warehouse

Upcoming Meeting: November 16th, 2006
 Topic: Erythropoietin and Oncology



Welcome New Members:

Christina Adkins
 Leigh Anderson
 Emily Borders
 Luv Grummer
 Elene Hall

Katie Hazlewood
 Jalaina Johnson
 Susan Krueger
 Ann Lloyd

Jaime Miller
 Matthew Miller
 Brian Wagoner
 Jeremy Walker



Baby Picture:

That future pharmacist is Edna Patatanian, who was OSHP President from 2004-2005. If you have a baby picture that you'd like to submit, please contact the Newsletter Committee.



Membership Drive for the November and January Eastern and Western District Meetings:

All OSHP members are encouraged to bring a prospective member to one of these upcoming meetings. If you bring someone who joins that night, then you'll be entered into a drawing for a \$100 prize! This prize will be given away at the January district meetings, and there will be a prize for both the Eastern and Western Districts.

Food, money, and education . . . it can't get much better than that, so find a colleague to share the fun!



OSHP Fall Meeting 2006 and Residency Showcase

This year's **Fall Meeting** will be held on Friday, November 3rd at the Renaissance Hotel and Conference Center in Tulsa, Oklahoma. The program will offer six ACPE-accredited continuing education hours divided into two 3-hour sessions. A wide variety of topics are being presented, including depression, pneumonia vaccine assessment and identifying inpatient indicators for stress ulcer prophylaxis, acute coronary syndrome, sedation for the critically ill patient, and a pediatric advanced life support algorithm update. With such an assortment of topics, there is surely something that will appeal to most attendees.

This program is made possible by an educational grant from Sanofi-Aventis.

Additionally, the 7th Annual **Residency Showcase** will be held following the completion of the Fall Meeting. All of the residency programs in the state of Oklahoma will be represented. This is a great opportunity to learn about all these programs in one convenient place. The showcase is scheduled from 4:45-5:45 pm. There is no charge, and registration is not required to attend the showcase; however, registration and applicable fees are required to attend the Fall Meeting, if interested. All students considering a residency should take advantage of this great opportunity.

Emergency Medicine Pharmacists

Submitted by: **Debbie Poland, Pharm.D., Norman Regional Health System**

A variety of specialty practices are available to the clinical pharmacist. Oncology, pediatrics, cardiology, drug information, and ambulatory care are a few examples. A new area of practice that is becoming increasingly popular is in emergency medicine. Several Oklahoma hospitals currently have full-time clinical pharmacists in the emergency department, and the numbers are growing.

Education and training for the emergency medicine pharmacist usually includes completion of a pharmacy practice residency (or comparable experience) with emphasis in critical care. There are four specialty emergency medicine residency programs available in the United States. Rutgers University, University of Rochester, University of Southern California, and Wayne State University (through Detroit Receiving Hospital) offer one-year residencies in emergency/critical care medicine. Proficiency in handling toxicology exposures is a significant component of emergency medicine. The Oklahoma Poison Control Center affords students an opportunity to broaden their training and experience in toxicology. Training in hazardous materials and disaster response as well as certification in Basic Life Support, Advanced Cardiac Life Support, and Pediatric Advanced Life Support may also be beneficial.

Responsibilities of the emergency department (ED) pharmacist vary according to the needs of the facility. Emphasis on medication safety through identification of drug-drug interactions and prevention of medication errors is a common focus. Other responsibilities may include therapeutic recommendations, medication histories, drug utilization evaluations, staff education, and patient counseling.

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!

Mark Your Calendar!

The documentary "Pharmacists: Unsung Heroes" will air on OETA on Wednesday, November 8th at 10 pm. This hour-long program explores the many critical contributions that pharmacists make to patient care across a variety of practice settings. Check it out!

Emergency Medicine Pharmacists *(continued)*

I began working in the emergency department at Norman Regional Health System (NRH) in July of 2006. I had just completed a pharmacy practice residency with NRH that included 3 ½ months of intensive care rotations and a one-month rotation in the emergency department at Integris Southwest Medical Center. My first two weeks on the job were spent with the Oklahoma Poison Control Center that included a two-day Advanced Hazmat Life Support provider certification program. I also completed BLS and ACLS certification programs.

My first three months have mostly been spent learning ways to incorporate my skills into the team of professionals working in the ED. Some of my responsibilities to date include obtaining medication histories, entering orders, providing therapeutic recommendations regarding drug selection and dosage, preparing and presenting drug monographs to the Pharmacy and Therapeutics Committee, preparing educational materials for patients and staff, and performing patient medication counseling. Future areas of focus include developing standing orders for toxicology emergencies, such as acetaminophen overdose and snake bites, as well as developing a patient brochure on the importance of compiling and maintaining a complete, accurate list of home medications.

The Emergency Department is a fast-paced, rapidly changing environment and offers a wonderful opportunity for the clinical pharmacist to make a difference in the healthcare of people in the community. If you are interested in knowing more, please feel free to contact me at 405-307-1511.



OSHP Clinical Pearls

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.

Levothyroxine Infusions

*Submitted by: Lisa Benham, Pharm.D., Pharmacy Practice Resident
Integris Baptist Medical Center*

QUESTION:

What are the dose, stability, and concentration of a levothyroxine drip used for the preservation of organ function in potentially brain-dead organ **donors**?

ANSWER:

Background:

Brain death is associated with endocrine, metabolic, and hemodynamic disturbances.¹⁻³ These disturbances must be managed in a potential organ donor in order for the needed organs to maintain viability for transplantation. Some institutions have developed a protocol for administering a combination of drugs to help preserve organ function. Although these protocols may vary, they generally include aggressive fluid resuscitation, vasopressor infusion, and hormonal therapy (consisting of D₅₀W, regular insulin, methylprednisolone, and thyroid hormone {T₄}). Methylprednisolone, insulin, and T₄ replace depleted levels of plasma cortisol, insulin, and T₃/T₄, respectively. Glucose is given to facilitate conversion of T₄ to T₃. A T₄ drip provides a constant level of T₄ for conversion to T₃. These protocols also call for management of other complications that may arise, such as electrolyte abnormalities, arrhythmias, hypothermia, etc.²

Hemodynamic instability in potential organ donors is a major factor in organ loss. It has been suggested that hemodynamic instability is a result of diminished levels of the thyroxine (T₄) hormone.¹ Some studies have shown that thyroid hormone replacement therapy can decrease the need for vasopressor support; however, other studies have failed to show any benefit of thyroid replacement.¹⁻³ The following is a summary of the information available for levothyroxine administration in this population.

Pretreatment:

Pretreatment begins with adequate hydration, correction of electrolyte abnormalities, correction of arrhythmias, and normalization of hemoglobin and hematocrit levels.

Dosage regimen for adult organ donors:

Studies involving adults have used the following regimen: levothyroxine 20 microgram intravenous bolus followed by a 10 microgram/hr continuous intravenous infusion. Vasopressors can be titrated as necessary once the levothyroxine drip has begun. More studies are needed to determine the optimal levothyroxine dosage regimen for preservation of organ function.^{1,2}

Dosage regimen for pediatric organ donors:

A pediatric study revealed the following levothyroxine regimen³:

Age	Bolus (microgram/kg)	Infusion (microgram/kg/hr)
0 to 6 months	5	1.4
6 to 12 months	4	1.3
1 to 5 years	3	1.2
6 to 12 years	2.5	1
12 to 16 years	1.5	0.8
16 years or greater	0.8	0.8

Stability:

Micromedex states the following related to the stability of levothyroxine injection⁴:

- Although a reconstituted vial is stable for 48 hours, once added to an IV solution, it rapidly degrades. Storage of this solution for more than a “few hours” would result in a loss of potency.
- It is a hydrophobic compound and adsorbs to glass or plastic containers and tubing. The extent of adsorption is not known but is thought to be significant.
- It is poorly soluble. Buffers added to the vial help to maintain solubility, but solubility decreases once added to an IV solution.
- Normal saline is the only solution that has been studied for compatibility and thus should be used.
- Stability information is available only for the administration of the 20 microgram bolus dose at a Y-site or 3-way stopcock over 1 minute. Y-site compatibility of the infusion, however, has not been studied.⁵ A dedicated intravenous line should be used to deliver the levothyroxine infusion.

Concentration:

No specific recommendations are available. Based on the infusion dose of 10 micrograms/hr and the estimated stability of two hours, a reasonable concentration could include 20 micrograms in 50 mL normal saline to be infused at 25 mL/hr **or** 20 micrograms in 100 mL normal saline to be infused at 50 mL/hr.

Summary of recommendations for levothyroxine infusion to preserve organ function in organ donors:

- Dosage regimens:
 - Adult: Intravenous bolus of 20 micrograms (in addition to other boluses), followed by a 10 microgram/hr continuous infusion.
 - Pediatric: Refer to age and weight-based dosing table above.
- Infusion concentration and rate:
 - Dilute 20 micrograms in either 50 mL or 100 mL normal saline to infuse at a rate not to exceed the estimated 2-hour stability of levothyroxine solution (i.e., 25 mL/hr if diluted in 50 mL of normal saline or 50 mL/hr if diluted in 100 mL of normal saline).
- Stability:
 - 2-hour estimated stability once admixed
 - Use normal saline as the diluent.
 - Infuse through a dedicated intravenous line.



References:

1. Salim A, Vassiliu P, Velmahos GC, Sava J, Murray JA, Belzberg H et al. The Role of Thyroid Hormone Administration in Potential Organ Donors. *Arch Surg.* Vol 136(12), December 2001: p1377-80.
2. Salim A, Velhamos GC, Brown C, Belzberg H, Demetriades D. Aggressive Organ Donor Management Significantly Increases the Number of Organs Available for Transplantation. *J Trauma.* Vol 58(5). May 2005: p991-994.
3. Zuppa AF, Nadkarni V, Davis L, Adamson PC, Helfaer MA, Elliott MR, et al. The effect of thyroid hormone infusion on vasopressor support in critically ill children with cessation of neurologic function. *Crit Care Med.* Vol 32(11), November 2004: p2318-2322.
4. Levothyroxine sodium (drug evaluation). In: DRUGDEX system, MICROMEDEX healthcare series [proprietary database on the Internet]. Greenwood Village (CO): Thompson MICROMEDEX; c 1974-2006 [cited 2006 Aug 11].
5. Gahart BL, Nazareno AR. *Intravenous Medications 2007.* 23rd ed. St. Louis (MO): Mosby Inc. Publishers; 2007



Chapter News

CONGRATULATIONS TO THE FOLLOWING OSHP MEMBERS:

- ❖ **Dorothy Gourley, D.Ph.**, was recently profiled on the ASHP Member’s Spotlight Website. It discusses her role as a consultant pharmacist for two rural critical access hospitals. Thanks, Dorothy, for proudly representing our great state and the pharmacy profession! Check out her fascinating profile at <http://www.ashp.org/acutecare/profiles/index.cfm>.
- ❖ The **SWOSU Student Chapter** of Health-System Pharmacy was recently showcased on the ASHP Student Forum Website. It features the student society’s activities and accomplishments, benefits of membership, and their future goals. Current chapter president, Rachel Adams, submitted this to ASHP. Thanks, SWOSU Student Chapter, for all of your hard work! Check out their profile (and clever “human art” spelling of ASHP) at <http://www.ashp.org/student/profiles/index.cfm>.
- ❖ **Michele Splinter, Pharm.D.**, from the University of Oklahoma College of Pharmacy, was recently awarded an ACCP Central Nervous System Minisabbatical. She completed this minisabbatical at the Nova Southeastern College of Pharmacy and International Center for Epilepsy, where she gained experience in the outpatient management of patients with epilepsy. Good luck, Michele, as you apply these new experiences to your current practice site!



The OSHP Board and Newsletter Committee attempts to keep abreast of the activities and awards received by OSHP members. However, we’re sure that we’ve missed something or someone along the way. Don’t be humble . . . we’d love to brag about you. Let the OSHP Newsletter Committee know when you or a fellow OSHP member has received recognition.



OUCOP Student Chapter Report

Advisor: Michele Splinter

The OU College of Pharmacy student chapter of OSHP continues to hold bimonthly meetings with another event-filled semester planned. We started out the 2006-2007 school year with a very successful membership drive. We recruited over 70 members on the Oklahoma City campus and 35 members on the Tulsa campus. In late August, our members participated in a service project at the Oklahoma Wildlife Expo in Guthrie. This was a family event that focused on outdoor activities in Oklahoma. We partnered with the Oklahoma Poison Control Center to provide information on poisonous plants, spiders, snakes and insects, and basic first aid for these exposures.

In early October, our chapter held its Annual Clinical Skills Competition in which fifteen teams of two students competed. The winning team of Lauren Hromas Snodgrass and Ashley Higginbotham will represent the University of Oklahoma in the national competition at the 41st ASHP Midyear Clinical Meeting in Anaheim, California, in early December. We are honored to have the upcoming speakers Dr. Debbie Poland, a recent graduate of OU who practices in emergency medicine at Norman Regional Health System, and Dr. Teresa Cooper, who practices in oncology at St. Francis Hospital in Tulsa. We have also planned a residency panel of current residents and faculty to allow students to better understand the importance of residencies and how they are structured.

OFFICERS	SPRING 2006- SPRING 2007
President	Jennifer Gass
President-Elect	Mark Bateman
Vice President	Amanda Bishop (OKC), Katherine O'Neal (Tulsa)
Secretary	Lisa Mayer
Treasurer	Django Belote
Historian	Misty Broyles (OKC), Jesse Schmidt (Tulsa)



SWOSU Student Chapter Report

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

The SWOSU College of Pharmacy-ASHP student chapter has gotten off to a wonderful start for the fall semester. Over the summer, we worked hard to revamp our image at Southwestern by overhauling our display cases in the college and by preparing an impressive Member Spotlight that is featured on the national ASHP website. This hard work paid off because our student chapter welcomed a record attendance at the informational membership drive in early September. The chapter has also found continued success with our fundraisers, which have raised another amazing \$1,000 in just our first fundraiser of the semester.

In early October, Dr. Mark Gales gave an enlightening tutorial for the Clinical Skills Competition. Fifteen teams competed on October 23rd at our local competition. The winning team of Brooke Honey and Heidi Villines will proudly represent Southwestern at the national competition, which will be held in early December at the ASHP Midyear Clinical Meeting in Anaheim, California. In addition to our winning team, we are planning to send five of our chapter members to the Midyear Clinical Meeting.

Also in October, Dr. Debbie Poland, an ED pharmacist from Norman Regional Health System, spoke to our group about her field of health-system pharmacy, as well as her experiences with her residency and with the clinical skills competition. In early November, Dr. Chris Rathbun will be speaking to our chapter about the pharmacist's role in HIV/AIDS therapy. We have several service projects planned for this semester, including a food drive before Thanksgiving, in which all of the food collected will be donated to the Agape Clinic in Weatherford. We also plan to continue our ongoing service project of making door decorations for hospice patients at the Trinity-New Seasons Hospice in Weatherford.

OFFICERS	FALL 2006
President	Rachel Adams
President-Elect	Cassi Mettry
Secretary	Jaime Miller
Treasurer	Donovan Fuller
Fundraising Chair	Ashley Rowe and Kim Le



WATCH FOR UPCOMING ISSUES OF THE OSHP NEWSLETTER

Oct-Dec 2006, Jan-March 2007