

## RESEARCH SPOTLIGHT...



**Mary Ensom, BS(Pharm), Pharm.D., FASHP, FCCP, FCSHP, FCAHS  
CSHP Foundation Research Grant Recipient**

***“Stability of Propranolol in Extemporaneously Compounded Suspensions: New Formulations for an Old Drug”***

Dr. Ensom and her co-investigators, Jennifer Kendrick, Susan Rudolph, and Diane Decarie received a CSHP Foundation grant of \$10,000.

**Q: How did the concept/idea for your project come about?**

**A:** Propranolol is a drug of choice for many diseases occurring in neonates and infants. Unfortunately, in Canada, propranolol is not commercially available in a liquid dosage form. Prior to our study, the only recipe or stability information on extemporaneously-compounded propranolol liquids was for 1 mg/mL in a "sugared" vehicle with an expiration of 45 days. These recipes are limited by concerns regarding diabetes in patient subpopulations, the need for a more concentrated suspension for patients on larger doses, and tediousness in compounding.

**Q: Please briefly describe your research project and what it revealed.**

**A:** We found that propranolol suspensions stored in plastic prescription bottles were stable for 120 days and maintained at least 94.7% and 93.9% of their initial concentrations at 25°C (room temperature) and 4°C (refrigerated), respectively.

**Q: What impact will your research have on patient care and hospital pharmacy?**

**A:** Access to both 2 mg/mL and 5 mg/mL propranolol suspensions that can be compounded with a commercially-available sugar-free formulation and have extended stability will be beneficial for the care of infants and children at our institution, other hospitals, and in the community. These formulations will allow for the accurate administration of propranolol at a smaller volume and in a vehicle that is appropriate for neonates and infants. The extended stability of these formulations will reduce the workload for pharmacies and increase the convenience for families who will not have to refill their child's prescription as frequently.

**Q: Why are CSHP Foundation grants important to hospital pharmacists?**

**A:** Dr. Ensom has been a long-time supporter of the Foundation because foundations similar to the CSHP Foundation helped launch her research career by providing seed money so that the foundation-funded projects could be the springboard for bigger and better projects. In addition, there are some important hospital pharmacy projects for which the CSHP Foundation is the only potential funding source.

**Publication and Presentations:**

Ensom MHH, Kendrick J, Rudolph S, Decarie D. Stability of Propranolol in Extemporaneously Compounded Suspensions *Can J Hosp Pharm.* 2013;66:118-24. <http://www.cjhp-online.ca/index.php/cjhp/article/view/1234>

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