OUR LADY OF THE LAKE RMC

In*Pharm*ation

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Staff Spotlight

Anastaisia Jordan, CPhT

Favorite Scripture: I can do all things through Christ, who strengthens me. Phillipians 4:13

Anastaisia Jordan is a pharmacy technician from Marksville, Louisiana. She is not only the oldest of 8 children, she is also the mom to Jaden, 10 years old, and Quin'ley, 3 years old, who are the most important things in the world to her.

She enjoys listening to gospel music and meeting and helping all different kinds of people. When Anastaisia is not at OLOL, she is working as an East Baton Rouge Head Start teacher. She loves both of her jobs, however her dream job would to ultimately be a pharmacist.

Her dream vacation includes traveling to Italy, which is perfect considering her favorite meal is spaghetti. Anastaisia's guilty pleasure includes spending her days off indulging in movies. If she could change one thing about the world it would be how we view one another, and hopes one day we can all be equal.

Resident Research Projects

Effect of a pharmacist-led medication discharge education program on the 30-day readmission rate of indigent patients undergoing coronary artery bypass graft or valve replacement surgery

by Laura Carrell, PharmD

The purpose of this project was to compare 30-day all cause readmission rates in indigent patients undergoing cardiac surgery who received discharge medication education versus patients who did not receive discharge medication education.

I conducted a retrospective chart review of patients admitted to the cardiovascular surgery unit from June 2016 to December 2016 compared the 30-day readmission rates for the 3 months prior to re-initiation of a discharge education program to the 3 months after. Patients were identified through the Society of Thoracic Surgeons database information collected by the hospital and subsequently stratified into two groups based on initial admission date. Inclusion criteria included self-pay and Medicaid patients undergoing coronary artery bypass graft or valve replacement surgery.

A total of 47 patients meeting inclusion criteria were identified, 25 patients prior to re-initiation of the discharge education program and 22 patients after. There were 3 re-admissions in each group. Each group also had 2 patients who were discharged on inappropriate (non-guideline-directed) medications. The most common reason for readmission was atrial fibrillation, and the only drug-related re-admission was a patient on warfarin who was admitted for a nosebleed with normal INR. One patient was discharged on inappropriate medications and re-admitted within 30 days. This patient had heart failure with a reduced ejection fraction and was discharged without an angiotensin converting enzyme inhibitor or angiotensin receptor blocker. His re-admission was for altered mental status and appeared unrelated to this medication omission.

In this population of indigent patients undergoing cardiac surgery, a discharge education program did not appear to affect the rate of 30 day readmissions. However, these results may not be representative of the true impact of this program because the sample size was small and the population was limited. Most previous studies that found an impact of discharge education sampled closer to 1000 patients. In addition, the readmission rate for the whole unit (not just the indigent patients undergoing certain surgeries) has been steadily declining since an initial pilot program was implemented in 2015. Future directions for this project include continuing the discharge education program and finding new ways to utilize Epic to allow for better patient education.

Impact of alvimopan with or without liposomal bupivacaine on length of stay and opioid utilization in colorectal surgery patients

by Kristin Howell, PharmD

The purpose of this project was to evaluate alvimopan with or without LB on postoperative outcomes of colorectal surgery. This was a retrospective, single-center study comparing the impact of alvimopan with and without LB on postoperative outcomes, including postoperative length of stay and opioid consumption. Data was collected through electronic medical records

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and generated financial reports based on colorectal surgery Diagnosis Related Groups (DRG) from January 1, 2013 to June 30, 2016. Patients were included according to colorectal procedures by previously identified surgeons

There were 194 total patients identified from January 2013 to June 2016 who underwent major small and large bowel procedures and received alvimopan, 111 of which also received liposomal bupivacaine. Baseline characteristics were statistically similar and evenly matched. There was no clinical difference in the primary objective of mean postoperative length of stay (4.7 days in alvimopan alone arm versus 4.6 days in alvimopan + LB arm). There was also no clinical difference in the secondary objective of postoperative opioid utilization (135 IV morphine equivalents in alvimopan alone arm versus 118 IV morphine equivalents in alvimopan + LB arm). Subgroup analysis based on DRG also showed no difference for the primary and secondary objective.

There was no difference in postoperative outcomes in patients receiving alvimopan alone versus those receiving alvimopan and liposomal bupivacaine. Alvimopan alone had similar postoperative length of stay, however, had greater opioid utilization. This information will be useful in the introduction and implementation of Enhanced Recovery Pathways at our institution.

Does low dose vecuronium provie adequate paralysis without the need for re-dosing in pediatric undergoing rapid sequence intubation compared to high dose vecuronium?

By Danielle Thomas, PharmD

Rapid sequence intubation (RSI) is the method of choice for most pediatric emergency intubations. It involves seven steps that help to reduce morbidity and mortality. Likewise, proper medication dosing helps to avoid delays in care and treatment. Induction, which always precedes paralysis, induces a state of anesthesia allowing for the administration of a neuromuscular blocking agent (NMBA). NMBAs, like vecuronium, paralyze skeletal muscle but do not provide sedative, amnestic, or analgesic effects.

The objective of this study was to determine if the need for re-dosing is increased in patients who receive low dose vecuronium (0.1 mg/kg) during RSI compared to those who receive high dose vecuronium (0.2 mg/kg).

Patients less than 18 years of age undergoing RSI with vecuronium as the NMBA were evaluated in this single center, retrospective chart review. Approval was granted by the Our Lady of the Lake College Institutional Review Board. The electronic medical record of each patient was reviewed from admission to discharge evaluating initial dose and the total number of doses received.

No patient who received high dose vecuronium required re-dosing. Re-dosing occurred most frequently in patients who were ≤1 and ≥11 years of age and received low dose vecuronium. A Fisher's Exact test was performed, however, the results were not found to be statistically significant ($p = 0.0891$)

Nearly one-third of the patients receiving low dose vecuronium required a second dose, although it was not found to be statistically significant. While there are no widely accepted guidelines available, current literature identifies that larger doses of vecuronium produce better intubating outcomes more rapidly. Further studies are warranted to help guide clinicians on proper dosing of vecuronium during RSI to ensure that unintentional delays in care are avoided.

ISMP Safe Practice Guidelines for Adult IV Push Medications

This year, the patient safety corner has focused on the safe use of IV push medications as recommended by the ISMP adult IV push medication safety summit. A summary of the recommendations is listed below for your reference:

- IV push medications should be provided in a ready-to-administer form with the use of proper prefilled syringes to flush and lock vascular access devices.
- Proper aseptic techniques should be used when preparing and administering IV push medications
- IV push medications should be prepared appropriately
  - ◊ With a filter needle for medications drawn from glass ampules
  - ◊ Only diluted in recommended solutions
  - ◊ Dilution should occur in sterile compounding area OR immediately prior to administration
  - ◊ Instructions should be provided to the clinician diluting and administering the medication if it will be prepared outside of the pharmacy
  - ◊ IV push medications should not be diluted from commercially available cartridge-type syringes or containers intended for infusion
  - ◊ IV push medications should not be drawn into pre-filled normal saline flush syringes
  - ◊ Only one medication should be prepared in single syringe unless the dose is prepared in the pharmacy
- All IV push medications should be labeled appropriately
- IV push medications should be administered at the appropriate site, with the appropriate rate, using bar code scanning or similar technology.
- Drug information resources regarding IV push medications should be available at the point of care
- Competency assessments for preparation and administration of IV push medications should be standardized and validated regularly
- Errors or near-misses should be reported in the appropriate manner to ensure improvement of the IV push program.

Regulatory

Recent FDA Approvals:

- **Cetirizine ophthalmic solution 0.24% (Zerviate)** was approved in May 2017 for the treatment of ocular itching associated with allergic conjunctivitis. Currently, cetirizine is only available in oral dosage forms.
- **Sarilumab (Kevzara)** a human monoclonal antibody that binds to the interleukin-6 receptor (IL-6R) was approved in May 2017 for the treatment of active rheumatoid arthritis.
- **Edaravone (Radicava)** is the first treatment approved by the U.S. Food and Drug Administration (FDA) in more than two decades to help amyotrophic lateral sclerosis (ALS) patients.

Local Louisiana Pharmacy News

Walgreens to open a specialty pharmacy in Baton Rouge for patients with complex medical issues, such as cancer, Hepatitis C, cystic fibrosis and HIV/AIDS. While Walgreens has five specialty pharmacies open inside hospitals in New Orleans, Marrero and Slidell, this is the first location of Community, a Walgreens Pharmacy, in Louisiana. The Community pharmacy provides comprehensive support for patients, including everything from connecting them to financial assistance programs, coordinating care with doctors and helping with medication adherence. The pharmacy doesn't have the retail offerings of a traditional Walgreens.

The pharmacy will be open from 8:30 a.m. to 5 p.m. Monday through Friday. Three people will work in Community.

Notice of Rule Making:

Recognizing the global problem of abuse and addiction to opioids, the Louisiana Legislature and the Louisiana Board of Pharmacy have enacted legislation and regulations to provide for the prescribing, dispensing and administration of Naloxone, an opioid antagonist. The standing order now allows pharmacists and doctors the ability to distribute naloxone to caregivers, family and friends of an opioid user, along with instructions for proper use, in the case of an emergency. The promulgation of the legislation and regulations increasing access to potentially life-saving medication will hopefully reduce the number of deaths resulting from opioid overdose in Louisiana.

TO ALL PHARMACY STAFF:

Thank you for welcoming, teaching, and encouraging us throughout our residency year. We have enjoyed getting to know all of you and will miss you as we move on to the next phase of our career.

With love and gratitude,

Laura, Kristin, and Danielle (the residents)

Reminders

When reviewing medications in DoseEdge, be sure to check that the final volume is correct. The corrected volume is listed on the label, but is much smaller than the dose and can be easily confused (see picture).

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