Welcome Class of 2016

Members of the Class of 2016 comes to us from Minneapolis, St. Paul, Avon, Apple Valley, St. Louis Park, Wheaton, Saint Michael, and Duluth, MN; De Pere, Milwaukee, Campbell-sport, and Green Bay, WI; San Francisco, San Luis Obispo and Benicia, CA; Sioux Falls, SD; Matteson and Woodbridge, IL; Colorado Springs, CO; Saginaw, MI; Phoenix, AZ; Needham, MA; Las Vegas, NV; Austin, TX; and Columbia, MO.

Please join us in welcoming the newest members of the anesthesia community.

Applications for the Class Starting in 2015

The process for reviewing applications and selecting the next class began in April. Out of 187 applications, 60 candidates will finalize their applications by preparing a structured professional goal statement. Twelve candidates will join the class from the wait list.

NBCRNA Grant Remembers Tom Healey

The National Board for the Certification and Recertification of Nurse Anesthetists has donated funds to contribute to the professional development of Saint Mary’s students and staff in memory of Tom Healey who passed away in December. This generous contribution will support all Saint Mary’s students who register for the MN Association of Nurse Anesthetists Annual Meeting in October 2014 and staff who register for NBCRNA, American Association of Nurse Anesthetists, or Council on Accreditation of Nurse Anesthesia Educational Programs sponsored educational opportunities. We are very grateful to the NBCRNA for their help in funding these opportunities.
Anesthetic Considerations for the Patient With Congenital Long QT Syndrome

Jodie L. Lester, RN, CCRN

Long QT Syndrome is a congenital or acquired disorder of cardiac ion channels. The lethal polymorphic ventricular dysrhythmia that long QT syndrome can trigger is torsades de pointes, causing sudden cardiac arrest. Potentially effective treatments for managing patients with congenital long QT syndrome include beta-blocker therapy, sodium channel blockers, potassium-increasing drugs, implantable cardioverter defibrillator therapy, and left cardiac sympathetic denervation. Patients with a history of congenital long QT syndrome who require surgery present several challenges for the anesthesia provider. During induction these patients are more at risk of developing dysrhythmias from excessive catecholamine release, thus requiring premedications and maneuvers to be used to decrease the likelihood of such a surge. In addition, these patients require a baseline resting electrocardiogram to detect the prolongation in the QT interval and an electrolyte panel to identify any electrolyte abnormalities. Patients with a history of congenital long QT syndrome may require careful selection of anesthetic medications preoperatively, during induction, maintenance, emergence, and postoperatively. Anesthetic management should focus on minimizing excessive catecholamine release while maintaining adequate hemodynamic parameters and having accessible equipment and medications in preparation for torsades de pointes.

Is Chloroprocaine Superior to Lidocaine and Bupivacaine for Subarachnoid Block in the Outpatient Setting?

Elizabeth A. Cleary, RN, BSN, CEN, CCRN and Carissa R. Currier, RN, BSN, CCRN

Background: Same day surgery is increasing in the United States. Chloroprocaine is a local anesthetic that had lost favor in the anesthesia community, but it is regaining in popularity. This paper will address whether chloroprocaine is superior to lidocaine and bupivacaine for subarachnoid block in the outpatient setting.

Methods: PubMed was searched in order to obtain articles. Articles were chosen which focused upon chloroprocaine, spinal anesthesia, the outpatient setting, and lidocaine or low-dose bupivacaine.

Results: Chloroprocaine had a significantly faster recovery time from motor and sensory block than lidocaine and bupivacaine. Time until unassisted ambulation, spontaneous voiding, and hospital discharge were also faster for patients receiving chloroprocaine. Transient neurologic symptoms did not occur for any patients receiving chloroprocaine or bupivacaine, but did occur in patients receiving lidocaine.

Conclusion: Chloroprocaine is advantageous to lidocaine and bupivacaine for subarachnoid block in short ambulatory (< 60 min) procedures. The distinct advantages of chloroprocaine are an increased safety profile, faster block resolution, and earlier hospital discharge.
Saint Mary’s University of Minnesota Student Seminar
The annual presentation of our student’s thesis work.

Effect of Needle Selection on Post Dural Puncture Headache Risk Following Lumbar Puncture
Louie Arcenas, RN, BSN, Mark Walz, RN, BSN

Viscoelastic Assays as Predictors of Mortality After Acute Traumatic Injury
Brandon Alt, RN, BSN and Aaron M. Hall, RN, BSN

Are Closed-loop Anesthesia Delivery Systems Safer and More Effective Than Manual Delivery of Propofol in General Anesthesia
Jonathan Jensen, RN, BSN Shannon McCrory, RN, BSN

The Use of Dexmedetomidine for Planned Awake Fiberoptic Intubation
Benjamin Gillmer, RN, BSN, Travis Leigh Krumholz, RN, BSN

Are Sevoflurane and Nitrous Oxide Effective Analgesics During Stage 1 Labor?
Kaitlin J Huth, RN, BSN, Crystal Smith, BSN, CCRN

Intravenous Emulsified Isoflurane for Cardioprotection Against Myocardial Ischemic Injury in High-Risk Patients
Jeremy D. Johnson, RN, BSN, Amanda Hope Q. Gu, RN, BSN

Should Glidescope Video Laryngoscopy Replace Direct Laryngoscopy for Routine Endotracheal Intubations?
Julie Tait, RN, BSN and Heidi Haider, RN, BSN

Anesthetic Considerations for the Patient with Congenital Long QT Syndrome
Jodie L. Lester, RN, CCRN

Airway Ultrasonography to Confirm Correct Endotracheal Tube Position
Brian Jacobs, RN, BSN and Joseph Pruis, RN, BSN

Is Prophylactic Epidural Blood Patch as Effective as Other Means for Treating Post Dural Puncture Headache?
Rebecca Weaver, RN, BA

High Thoracic Epidural Anesthesia as the Sole Anesthetic in Coronary Artery Bypass Graft Surgery
Shirnul Alviza, RN, BSN, Manita Dhungel, RN, BSN

Does the Use of Intracuff Alkalized Lidocaine Reduce Endotracheal Tube-Induced Emergence Phenomena?
Erika L. Beining, RN, BSN and Nancy R. Reiland, RN, BSN

Is Chloroprocaine Superior to Lidocaine and Bupivacaine for Subarachnoid Block in the Outpatient Setting?
Elizabeth A. Cleary, RN, BSN and Carissa R. Currier, RN, BSN

Medical Complications of Eating Disorders and their Effects on Anesthesia Delivery
Heather Marcella, RN, BAN, TNCC and Christine Strandquist, RN, BSN, CCRN, TNCC

Saturday, May 17, 2014
8:00 AM to 4:00 PM

Saint Mary’s University Center
2540 Park Avenue South
Minneapolis, MN 55404

Cost $60 – CRNA’s
$30 – Students

Continental breakfast, coffee, tea, soft drinks and lunch provided

This program received prior approval for 5 CE from the American Association of Nurse Anesthetists
Code Number: 1029349
Expiration Date: 5/17/2014

The registration form is located on the next page
Are Closed-Loop Anesthesia Delivery Systems Safer and More Effective Than Manual Delivery of Propofol in General Anesthesia?

Shannon M. McCrory, RN, BSN and Jonathan C. Jensen, RN, BSN

**Background:** Closed-loop anesthesia delivery systems (CLADS) use computer technology and bispectral index (BIS) monitoring to titrate propofol infusions in general anesthesia. The purpose of this paper is to determine if CLADS are more safe and effective than manual administration of propofol by anesthesia providers.

**Methods:** PubMed and Google Scholar databases were searched. Nine studies met review criteria.

**Results:** CLADS demonstrated better hemodynamic stability in 3 studies and showed no significant differences from the manual group in two studies. CLADS required less use of vasoactive drugs than manual titration of propofol in three studies. The CLADS group used less propofol compared to the manual group in four studies while two studies showed no statistical differences between groups. The CLADS group demonstrated more rapid recovery times compared to the manual group in four studies. The CLADS group maintained the target BIS range longer than the manual group in six studies.

**Conclusions:** The studies reviewed demonstrated that CLADS are safe and more effective than manual titration of propofol, however, current research has many confounding variables. Findings are inconclusive and more studies are needed with improved research designs to accurately compare CLADS to manual titration of propofol.
### Should Glidescope Video Laryngoscopy Replace Direct Laryngoscopy for Routine Endotracheal Intubations?

Heidi Haider, RN, BSN and Julie Tait, RN, BSN

Tracheal intubation is a necessary skill performed by anesthesia providers. Video laryngoscopy is technology that originally was made available to help aid visualization of anticipated difficult airways. Currently, many providers are utilizing video laryngoscopy for routine endotracheal intubations. The purpose of this review of literature is to evaluate if video laryngoscopy should replace direct laryngoscopy for routine endotracheal intubations.

A literature search was conducted using the PubMed/Medline and Google Scholar databases for research articles including information on direct laryngoscopy and video laryngoscopy. Two meta-analysis articles, 11 comparative studies, one observational study, and six case studies were selected for use in our review.

Generally, video laryngoscopy was found to take more time than direct laryngoscopy, first attempt to intubation was higher than direct laryngoscopy, and video laryngoscopy was found to improve the glottic view when compared to direct laryngoscopy. Hemodynamic measures were unchanged when comparing video laryngoscopy and direct laryngoscopy. Sore throat, dental damage, and tissue injury were complications seen with direct laryngoscopy and/or video laryngoscopy.

Because tracheal intubation is a necessary skill for anesthesia providers to have, information on different intubating devices and techniques is important to explore. This information will be helpful guiding providers to make knowledgeable decisions with their choices.

### Are Sevoflurane and Nitrous Oxide Effective Analgesics During Stage 1 Labor?

Kaitlin J. Huth, RN, BSN and Crystal Smith, RN, BSN

**BACKGROUND:** Sevoflurane and nitrous oxide are commonly utilized in Canada, the United Kingdom, and other countries throughout the world as laboring anesthetics. However, they are infrequently used in the United States. Laboring parturients in the United States are most often being treated with an invasive neuraxial blockade to manage their pain. This review aims to determine whether nitrous oxide and sevoflurane are effective analgesics during the first stage of labor.

**METHODS:** Seven randomized control studies, two systematic reviews, and five background articles were chosen for review by searching PubMed, EBSCO MegaFILE, and Google Scholar databases.

**RESULTS:** Results were derived from measurements including visual analog scale (VAS), APGAR scoring in infants, SpO2 measurements and hemodynamic monitoring of the mother. Six trials found a significant decrease in VAS scores when sevoflurane or nitrous oxide was used. Four studies assessed SpO2 measurements and three found no significant change in the mother. Newborn APGAR scores were evaluated in two trials and neither found a significant difference between APGAR scores when comparing the use of nitrous oxide, sevoflurane or a placebo.

**CONCLUSION:** The use of sevoflurane or nitrous oxide during the first stage of labor provided effective pain control, stable hemodynamics in the mother and fetus, and higher satisfaction rates among laboring mothers when compared to control groups. Further studies could help support a change in evidenced-based practice utilizing sevoflurane and nitrous oxide as pain analgesics during the first stage of labor.

### This Semester’s Courses

**NEW STUDENTS**
- (NA640) Chemistry & Physics
- (NA635) Professional Writing for Nurse Anesthetists
- (NA630) Professional Aspects of Nurse Anesthesia
- (NA606) Research Design & Statistical Analysis

**SENIORS**
- (NA781) Synthesis Paper Proposal
- (NA780) Clinical Integration
- (NA771) Clinical Practicum II

**GRADUATING SENIORS**
- (NA774) Clinical Practicum V
- (NA783) Synthesis Paper Presentation

Class of 2014 program completion date: August 20th.
Final Clinical Day: Friday August 15th.
Happy Tenth Birthday!
The very first Graduate Nurse Anesthesia Program Newsletter was published in May of 2004. Our thanks for the many contributions by alumni and staff and to the many readers.

There have been 737 GRADUATES from 1952 through 2013

Were on the web!
www.smumn.edu/anesthesia

Commencement Ceremony: Class of 2014

The Commencement Ceremony for the Class of 2014 is planned for Sunday, June 1 at 11:00 AM. The ceremony is being held at the University Center, 2540 Park Avenue, Minneapolis. Parking is available on the street or in the parking lots behind the university. If you are an academic or clinical faculty member and would like to participate in the processional, please contact Elise Riveness at (612) 728-5132.

Though the students will not finish until August 20, this is one of the last times they will be together as a group before they start their new careers. The commencement exercises are followed by a reception.

Please join us!

SMU Anesthesia Students and Alumni Facebook Page Update
Launched in April 2009, there are now more than 265 members. To join, become a member of Facebook and look for Saint Mary’s Nurse Anesthesia Academic Groups or click on the link below. Currently, students are looking for job opportunities. Later this semester, students will be seeking paper ideas.

SMU Anesthesia Facebook Page

TRANSCRIPT REQUESTS
To get your transcript, please use the following link:
Transcript Request Information
We do not have copies of diplomas.

VERIFICATION OF EDUCATION FOR EMPLOYERS
In accordance with federal regulation, the student/alumni must give permission for any information to be released by the college. Verifications cannot be done over the phone. Please sign a consent form from your employer or send a request with your signature to:

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