EDUCATION - CLINICAL -

OUR FUTURE

# SRNA Sedation Sequels

FALL OF 2016,

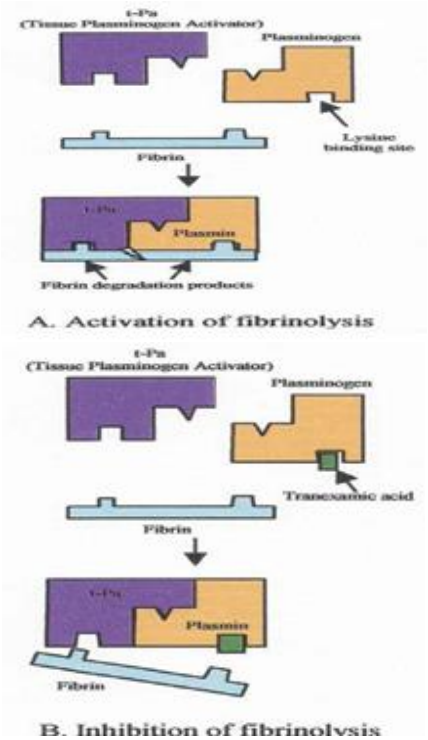
ISSUE 4

## USE OF TRANEXAMIC ACID IN PREVENTING POSTPARTUM HEMORRHAGE

Postpartum hemorrhage (PPH) continues to be a serious complication in both developed and underdeveloped countries. It remains the leading cause of maternal mortality in underdeveloped countries.

Implementation of the World Health Organization guidelines of PPH treatment has reduced mortality. In addition, the prophylactic administration of tranexamic acid with uterotonic agents may contribute to the reduction of PPH. This evidence-based literature review of tranexamic acid will examine its mechanism of action as well as its effectiveness in prevention of PPH and blood loss reduction in elective surgery, obstetrics, and trauma.

**Keywords:** Blood loss, cesarean delivery, postpartum hemorrhage, tranexamic acid, vaginal delivery.




**Conclusion:**

The evidence shows that TXA can effectively reduce blood loss in patients undergoing elective surgery and in obstetric and trauma populations. World Health Organization guidelines recommend administration of TXA in treatment of PPH and trauma. The adoption of WHO guidelines for using uterotonic agents and prophylactically administering TXA may significantly reduce the number of PPH incidents. Although the findings of systematic reviews and RCTs analyzed in this evidence based review reflect the benefits of TXA administration in PPH, more studies are required to assess the effectiveness of administering TXA prophylactically.

Glymph, DC, Tubog TD,Vedeaikina M. Use of Tranexamic Acid in Preventing Postpartum Hemorrhage. *AANA J* 2016;84(6):427-438.

## Inside Issue:



# Clinical Spotlight

## Baptist Hospital

Felix Lahmann has been a CRNA at Baptist Hospital working for Kendall Anesthesia Associations since 2009. Felix completed his BSN and MSN at Florida International University. Prior to becoming a CRNA, Felix worked as an ICU nurse for four years in the Medical Intensive Care Unit at Jackson Memorial Hospital in Miami, Florida. His passion for becoming a CRNA began in nursing school during an operating room rotation. As Felix states, "the reason why I became a CRNA was not only the independence that comes along with the immense responsibility of taking each patient's life into our hands, but also the variety of cases within the anesthesia practice".

As a CRNA at Baptist Hospital, it has exposed Felix to a wide range of cases. "I have a passion in providing anesthesia for awake craniotomies, due to their complexity and close communication with the surgeon, while ensuring adequate analgesia and patient comfort throughout the procedure." Working in pediatrics, obstetrics, cardiovascular, interventional radiology, from robotic and TAVI implantation all in one day, makes it not only very challenging but significantly rewarding. That's why I encourage current SRNAs or anyone with an interest in the field of nurse anesthesia to work as hard as possible to complete the program because in the end it is well worth it.

**David Hernandez, SRNA**
**Class of 2017**


# RESIDUAL NEUROMUSCULAR BLOCKADE

Postoperative residual neuromuscular blockade continues to affect a considerable percentage of patients admitted to the post-anesthesia care unit (PACU). Recent evidence suggests that 17% to 36% of patients arriving in the PACU present with objective manifestations of incomplete neuromuscular blockade reversal as determined by train-of-four (TOF) ratios less than 0.9.[1] Visual or tactile evaluation of the response to nerve stimulation is often used in daily clinical practice, but these tests are relatively insensitive. Even if no fade is felt or seen in response to TOF, double-burst, or 50-Hz tetanic stimulation, residual neuromuscular blockade cannot be excluded.[2]

Available methods for objective neuromuscular monitoring are mechanomyography, electromyography, kinemyography, phonomyography,and acceleromyography.[1] Although all five methods have advantages and disadvantages, acceleromyography is probably the most widely distributed method for objective monitoring of neuromuscular function during clinical anesthesia. Patients who are monitored using the standard TOF have a significantly higher degree of objective postoperative residual muscle weakness than those patients who are monitored using acceleromyography.[1] Furthermore the adjunct use of acceleromyography prevents patients from being reversed at lower train-of-four ratios, which can help decrease postoperative airway complications.[2] The evidence is consistent in portraying that the use of acceleromyography does decrease the occurrence of residual neuromuscular blockade and it does prevent patients from being reversed at much lower train-of-four ratios.

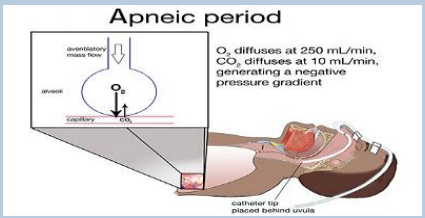
**References:**

1. Murphy G, Szokol J, Nisman M, et al. Intraoperative acceleromyographic monitoring reduces the risk of residual neuromuscular blockade and adverse respiratory events in the postanesthesia care unit. *Anesthesiology* [serial online]. September 2008;109(3):389-398. Available from: CINAHL Plus with Full Text, Ipswich, MA. Accessed November 29, 2016.

2. Claudius C, Viby-Mogensen J. Acceleromyography for use in scientific and clinical practice: a systematic review of the evidence. Anesthesiology [serial online]. June 2008;108(6):1117-1140. Available from: CINAHL Plus with Full Text, Ipswich, MA. Accessed November 29, 2016.

**David Hernandez, SRNA**
**Class of 2017**

## Apneic Oxygenation: A Method to Prolong the Period of Safe Apnea




A difficult intubation poses one of the most challenging tasks for anesthesia professionals, representing 27% of all adverse respiratory events, 93% of which are unanticipated. Unanticipated difficult mask ventilation and intubation may result in serious complications. Safe airway management requires a proper and thorough preoperative airway evaluation and a plan to secure the airway, with alternate plans available when the initial plan fails. Pediatric, obese, and obstetric patients undergoing general anesthesia with endotracheal intubation are considered to be at risk of rapid desaturation. As an adjunct to conventional preoxygenation techniques, continuous oxygen administration during the apneic period, termed apneic oxygenation, assists in the maintenance of oxygenation when tracheal intubation is attempted. Nine articles were selected for appraisal in this literature review: 6 randomized control trials, 2 prospective studies, and 1 retrospective study. Multiple apneic oxygenation techniques, including nasopharyngeal catheter, nasal prongs, endotracheal tube, intratracheal catheter, and high-flow transnasal humidified oxygen, demonstrated effectiveness at delaying the onset of hypoxemia during the apnea period. Prolonging the apneic window changes the nature of airway management in patients at high risk of desaturation and when an unanticipated difficult airway arises.

**Pratt,M.,Miller,A.Apneic Oxygenation: A Method to Prolong the Period of Safe Apnea.** ***AANAJ*** **2016; 84(6): 1-7.**

# WELCOME CLASS OF 2019 TO THE FIU DNP PROGRAM

Welcome, Class of 2019! New year, new beginnings and with it comes the start of a very difficult, yet worthy journey. Everything you heard about CRNA school is true, just add that you really don't know what to expect on top of it.

Take the time to appreciate this opportunity you were given and realize that this life changing event will demand most of your time and dedication. You will need to get organized, use your time wisely, and be ready to get out of your comfort zone: everyday.

As you start your online classes, you will have the chance to establish a routine and I strongly encourage you to do so. Invest your time in learning how to write your papers, sticking with the requested format and referencing everything as you should. This will save you from a lot of trouble in the future, specially when all you can think about is the two finals you have on Monday morning. You are starting a doctorate level program, and the expectations of you will be as such.

Connect with your classmates, ask questions, make friends, get to know them. Do it! Start it from day one. For the next 3 years, some of them will become your closest friends. Fall semester will be coming around the corner, much sooner than you can imagine.

Whatever it is that you think you know – scratch that. This is anesthesia, you know nothing! Give yourself the chance to be a beginner, remember to be kind to others and never look at your classmates as competition, we rise by lifting others. Be ready to give a hand… you never know when you'll need one.

The class of 2018 is looking forward to meet you all in August.

Warm regards,

**Larisse Greenwell, SRNA**
**Class of 2018**

DNAP
Department of Nurse Anesthetist Practice
FIU FLORIDA INTERNATIONAL UNIVERSITY

# Clinical Spotlight

## Mercy Hospital

Jaidee Saavedra received her Master of Science in Anesthesiology from Barry University in 2007. She later became the Nurse Anesthesia Clinical Coordinator for 3 surrounding universities at Mercy Hospital. As clinical coordinator, Jaidee sets the tone for other preceptors and teaching techniques. Jaidee is a firm believer that intimidation techniques create a hostile environment and deter from a student's ability to learn. Instead, Jaidee encourages open lines of communication as a mentor to developing nurse anesthesia students.

Mercy Hospital's anesthesia team provides a unique learning experience that fosters independent practitioners with a specialty in regional anesthetic techniques. To be successful at Mercy Hospital, Jaidee suggests reviewing anatomy and physiology as well as surgically related anesthetic implications. This serves as a conduit to creating individualized anesthetic plan of care while incorporating patient's current and past medical histories. She states that being proactive in your daily practice will ensure you thrive in an environment with a diverse mix of patient cases and anesthetic techniques. Lastly, Jaidee recommends being open minded to all techniques encountered while always maintaining a positive attitude.

**Frida Iturriaga, SRNA Class of 2017**

# IMPLEMENTATION OF HB 423 & HB 977

April 14, 2016 the House Bill (HB) 423 and HB 977 was enacted into law and has shifted practice dynamics in both medical and nursing professions[1]. Under the Florida Statute 893.03, as of January 1st 2017 advanced registered nurse practitioners (ARNPs) and physician assistants (PAs) will be granted authority to prescribe Schedule II-IV controlled substances[1]. The enactment of this movement, although a great stride for the advanced-nursing profession as a whole, is not a benign privilege. In the upcoming years, the ARNP community will undoubtedly find itself under much scrutiny. As the dynamic within practice falls into full swing, ARNPs must transition into this role with a solid understanding of the new mandates, the changes in licensure requirements, and any updated variations to the scope and standards of practice. Lack of awareness on practice changes will not only place the practitioner at the sharp end of litigation, but also hinder the future growth of the profession as a whole. It has been through a concerted effort that the well-respected and highly educated advanced practicing nurses have once again tackled another milestone, and it is crucial to acknowledge the vital role these key players hold in healthcare. The resilience and influence of the ARNP community will continue to mold practice in years to come for the betterment of clinical efficiency and most importantly patient outcomes.

**References:**

1. Important Legislative Update regarding HB 423. Florida Board of Nursing » Important Legislative Update regarding HB 423 - Licensing, Renewals & Information. http://floridasnursing.gov/latest-news/new-legislation-impacting-your-profession/. Published 2016. Accessed November 29, 2016.

2. For common questions: http://fana.org/florida-hb-423-arnppa-controlled-substance-prescribing/

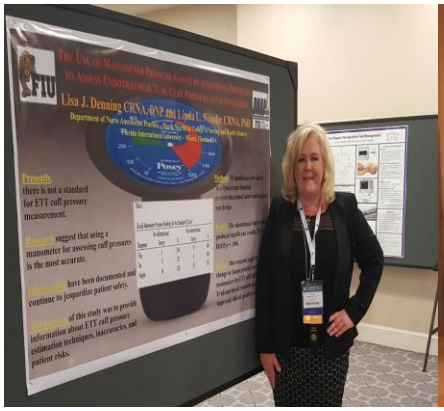
**Emilio Acosta, SRNA Class of 2017**

# Congratulations to the Chair

Jeffrey Groom, PhD, CRNA Chair of the Department of Nurse Anesthetist Practice after 16 years at FIU, will be leaving this December. Dr. Groom has been a dynamic leader, mentor and educator in nursing anesthesia and simulation. Dr. Groom is a sought after speaker on patient safety and simulation internationally. He has aided in establishing the first Nurse Anesthetist program at a public university in Florida at FIU. He is leaving to take on yet another challenge. Dr. Groom has been appointed to be the inaugural Dean at the new University of Miami Simulation Hospital. He is proud to have worked with exceptional group of faculty, staff, clinical partners, students and alumni. He has lead FIU's Department of Nurse Anesthetist Practice in building a highly regarded reputation in which our graduates are recognized as ready to hit the ground running. Congratulations to Dr. Groom on this great professional achievement! He will be missed!

Congratulations!

**Derrick C. Glymph, DNAP, CRNA**




# NATIONAL AANA CONFERENCE: A PROFESSORS PERSPECTIVE

In September 2016, the American Association of Nurse Anesthetists Annual Congress was held in Washington, DC from September 9th to September 13th. It was my pleasure to witness the FIU students attend the Annual Congress and two DNP graduation students present their DNP projects during the poster session which was held for two days. The poster session is a great honor for our FIU DNP graduates as they are competing with all submissions for poster presentations, which include PhDs, DNPs and Master's capstone projects. This great honor allowed Dr. Jampierre Mato and Dr. Hallie Evans to showcase their DNP Projects at the National level to over seven thousand participants at the AANA Annual Congress.

As I stood at the posters, watching all observers, it was quite exciting to see other students and CRNAs interact with Dr. Mato and Dr. Evans. The FIU Nurse Anesthesia students were completely engaged and you could see the inquisitiveness of their upcoming work for DNP Projects and their future expectations as a FIU DNP graduate. Congratulations and thank you to Dr. Mato and Dr. Evans in achieving acceptance for poster presentations and being phenomenal FIU role models.


A distinction needs to be acknowledged to the FIU students who attend the AANA Annual Congress as they are not reimbursed for the conference fee or expenses. From a Professors perspective, this touches my heart as students make the sacrifice to become lifelong learners, scholars and change agents in learning best practice in giving cost effective, safe, quality healthcare.

**Ann Miller, DNP, CRNA, ARNP**

# CLASS OF 2016 SRNA TIPS FOR FIRST JOB SEARCH & INTERVIEW TIPS

Pay, Practice, Location. Pick one, maybe two. This proved to be mostly true in my search across the country for the "perfect" position. Doing some soul searching to identify what it is you want respective to the above is crucial in leading your search and avoiding the wrong practice/lifestyle fit. If you want the big-city lifestyle expect pay to be less than competitive. If you want a full scope of practice and autonomy, understand you'll very likely be giving up location. However, it is usually the more autonomous practices and smaller towns that compensate well, so full scope and higher pay tend to correlate. Understanding and sticking to what is truly important to you will help bat away pushy and manipulative headhunters… I mean job recruiters.

So you know what you want; now how do you find it? Like many, I started my search on gasworks.com. I quickly found out that the majority of the positions listed were from job recruiters and large practice management companies (PMC's). Speaking with recruiters will instantly make you feel like you just walked into a used car sales lot. Remember what I said about understanding what it is you want? Well here is where your commitment to that needs to be firm, so you don't wind up in a job you don't want simply because the recruiter insists it's the right fit. ASK QUESTIONS!

For example:

•Why are they hiring? Did they have a recent mass exodus?

•Who chooses the anesthetic plan and who will push inductions medications if it is an ACT model?

•How many times a week will a CRNA performs PNBs /OB/invasive lines (or whatever other skill is important to you)?

•Is overtime available? Is it paid at a different hourly rate? Is it paid for hours worked over 40/week or hours worked passed scheduled shift?

•Will you be on-call? How frequently? In-house? Is this at a different rate?

I cannot stress this enough. Be specific! If they say the CRNAs do regional, ask if that only means spinals and epidurals or does it include PNBs? If they say CRNAs cover OB, ask if they do both the sections and epidurals or are the CRNAs only covering sections while anesthesiologists perform all laboring epidurals? This is not information that a recruiter is going to offer freely, you must ASK. Which leads me to my next point: request to speak to CRNAs at the facility. The recruiter will only have an idea of what is offered by the practice, but a CRNA can inform you of the nitty-gritty aspects like working relationship with the MDAs, work environment and practice.

Most of the highly desirable jobs are discovered through word of mouth. For this reason, I encourage you to join the Facebook page CRNAs and SRNAs and the spin off closed/private groups for job posts. Network with the people on these pages! Know where you want to live? Great! Contact the respective state nurse anesthesia association to see if they post available positions and message CRNAs that work in the state and let them know you're looking. You'll be surprised by how receptive they are and how many great positions you'll discover this way.

So you got an interview. How do you prepare? You probably think you need to prep for questions like "what's the most difficult case you've done?" or "Why should we choose you?" Wrong. At least in my experience, most interviews really felt like a reverse interview, and went as follows: Arrive at facility. Change into scrubs. Tour a few OR rooms. Make small talk about the weather. Job offer.

I attribute this to a sheer need for CRNAs across the country at the moment. This may change, but the above experience seems to have held true for the majority of the 2016 class.

Other things to keep in mind:

•Sign on bonuses and " new grads welcome!" are usually red flags of a facility struggling to retain staff.

•Speak to CRNAs at the facility! (Not just the planted one)

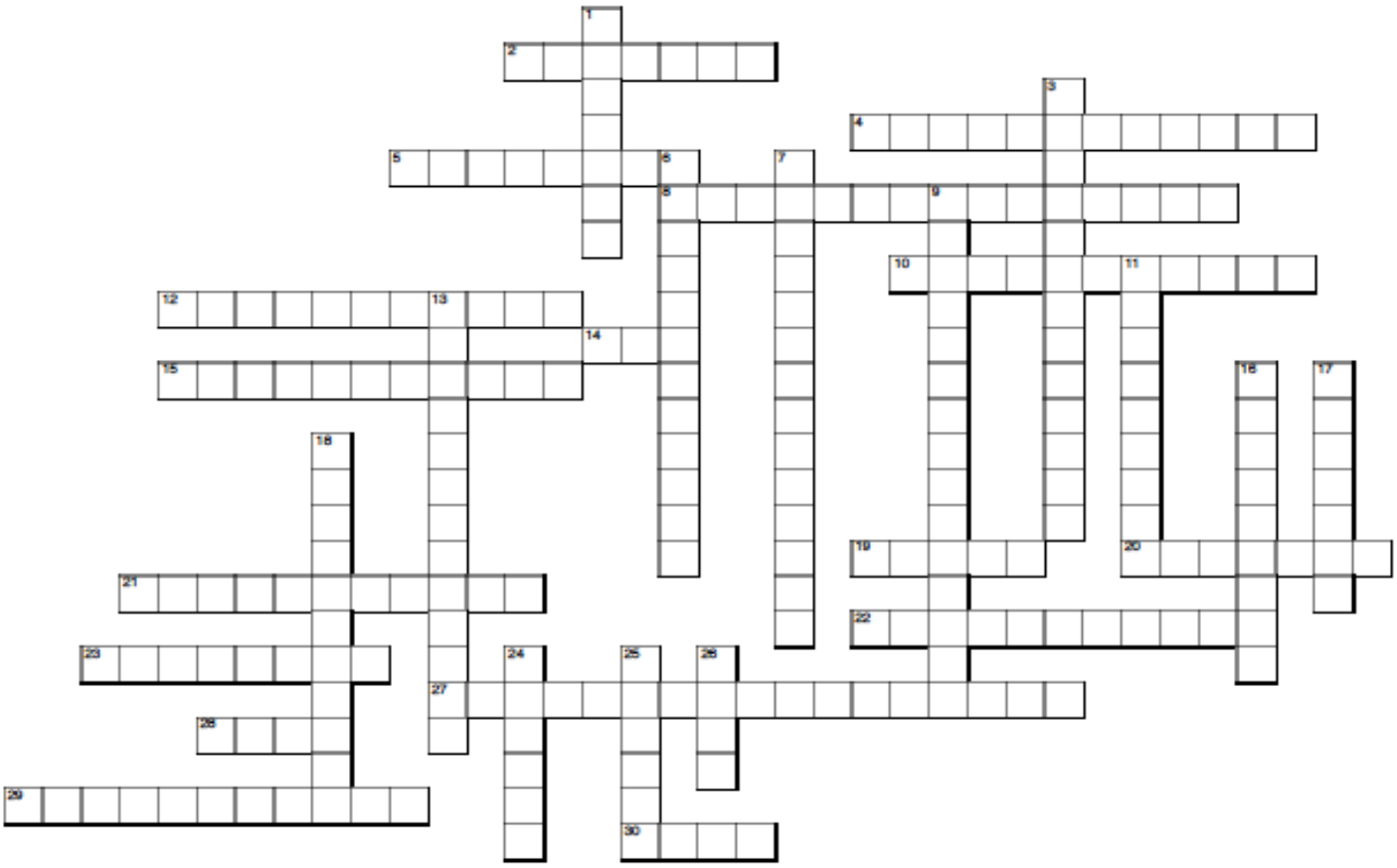
•The word "autonomy" means something different to everyone, so be specific about what you want and ask questions!

•Wear your professional attire! I know you will most likely be in scrubs minutes into your interview, but its one less thing to question and gives an easy positive first impression.

•Don't jump on the first offer you receive. They need you as much as you need them. Take your time finding a position that suites you.

**Yoel Tapanes, SRNA Class of 2016**
**Crystal Perez, SRNA Class of 2016**

# SRNA Sedation Sequels



**ACROSS**

2 Narrowest portion of the pediatric airway
4 Also known as colon aganglionosis or toxic megacolon
5 Agent given prophylactically to decrease the chance of apnea in infants at high risk for post op apnea
8 Condition that results from hypertrophy of the pyloric smooth muscle
10 Effect of a right to left shunt on IV induction
12 Local anesthetic not metabolized in neonates
14 Age at which nonshivering thermogenesis stops being clinically significant
15 Most frequent type of shock in pediatric patients
19 Diagnosed by a steeple sign on xray
20 Volatile agent associated with neural tube defects
21 Best fluid replacement for pediatric patient in hypovolemic shock
22 Prematurity is defined as being born before how many weeks
23 Chromosome with mutation in malignant hyperthermia
27 Characterized by incomplete formation of the esophagus, usually a closed pouch
28 Size ETT for a 4 year old
29 Sac of fluid protruding through an opening in baby's back without spinal cord
30 Direction in which oxyhemoglobin dissociation curve is shifted in newborn

***DOWN***

1 Position in which to induce patient with epiglottitis
3 Pharmacologic agent that decreases a right to left shunt by increasing systemic vascular resistance
6 Diagnosed by a thumbprint sign on xray
7 Catecholamine released that enhances metabolism of brown fat
9 Drug used to break laryngospasm in child
11 Route through which infants lose most of their body heat
13 Most commonly used analgesic for pediatric outpatients
16 Cardiac output in infants is dependent on
17 Volatile agent that should not be administered for anesthetic maintenance in a patient with diaphragmatic hernia
18 Is Gastroischisis or omphalecele associated with congenital anomalies
24 Percent of body weight in neonates that is from extracellular fluid volume
25 Preferred site to obtain arterial blood gases in neonates
26 Side diaphragmatic hernia more commonly occurs on

**Frida Iturriaga, SRNA Class of 2017**

## Angelica's Key Lime Pie Recipe

Graham Cracker Crust
1 1/2 c graham cracker crumbs
1/2 c brown sugar
1 tsp cinnamon
6 T melted butter

Mix graham cracker crumbs, sugar, melted butter, and cinnamon until well blended.

Press mixture into a 9 inch pie plate.

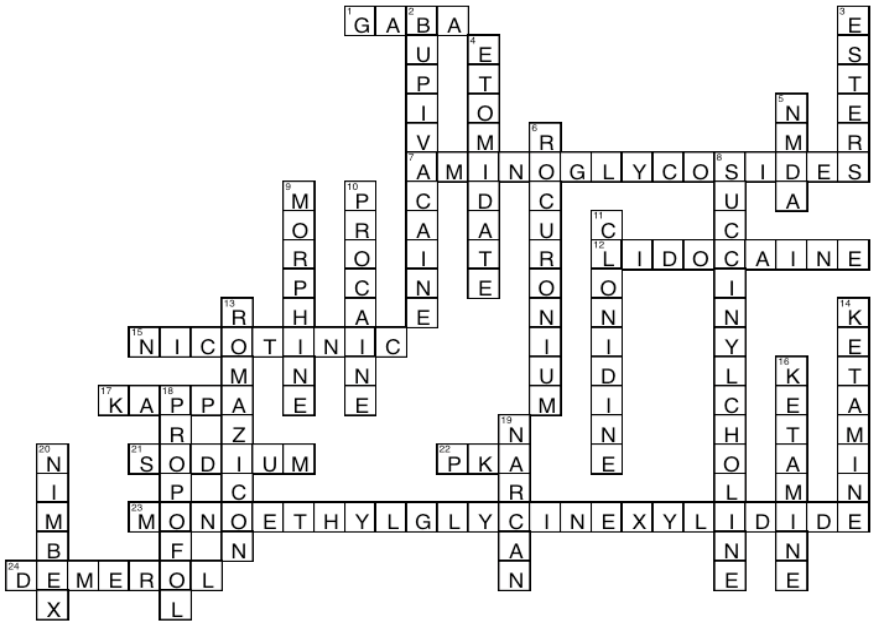
Bake at 350F for 7 minutes.

Key Lime Pie
14 oz can condensed milk
4 large egg yolks
1/2 cup key lime juice
1 t vanilla extract
fresh zest of 1 lime

1. Combine milk and egg yolks at low speed.
2. Slowly add juice, mixing until well blended. Stir in lime zest.
3. Pour into 9 inch graham cracker pie shell and bake for 20 minutes at 350F.
4. Refrigerate at least 2 hours before serving to allow filling to firm.
5. Top with whipped cream and enjoy!

**Angelica Arias, SRNA Class of 2016**

## Answers For The Previous Edition




## Upcoming Events:

### ACLS Recertification

JAN 5 and 6, 2017 -ACLS/PALS/BCLS Recertification for ALL Class of 2018

### School Schedule

Class of 2016 Graduation- Dec 14

Start of Spring 2017 semester - Jan 9

### Conferences/Meetings:

**AANA Assembly School of Faculty**
Ft. Lauderdale
February 23-25, 2017

**AANA**
Mid-Year Assembly. Washington, DC
April 21-25, 2017

**Spinal and Epidural Workshop**
AANA Foundation Learning Center
Park Ridge, Ill.
May 11-13, 2017

**FANA**
Fourth Annual Sand and Surf Anesthesia Symposium. Ft. Lauderdale
March 9-12, 2017

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