



# The Transition

4<sup>th</sup> Year Pharmacy Students Entering the Real World of Pharmacy

The Transition, Volume III, Issue III

April 2016

## Preceptor Highlight

Dr. Chris Bland graduated from South Carolina College of Pharmacy in 2000 and has been board certified in pharmacotherapy (BCPS) since 2003. He spent nearly 15 years in clinical practice at Eisenhower Army Medical Center in Augusta, GA. Though he primarily spent his time as a Critical Care/Infectious Disease Specialist, he also developed a novel bariatric surgery clinical practice in both the inpatient and ambulatory care settings. While in Augusta, Dr. Bland served as an adjunct faculty member with UGA at the Augusta Campus from 2011-2015. Then, he accepted a position as a Clinical Assistant Professor at UGA's Southeast campus in Savannah. He is excited to be able to precept and mentor students and residents, conduct clinical research, and help start the new Savannah campus as the first full-time faculty member. Dr. Bland works as an Internal Medicine/Infectious Disease pharmacist at Candler Hospital in the Progressive Care Unit. He also runs a penicillin skin testing service with Dr. Bruce Jones, the clinical Infectious Disease Specialist. This novel service allows patients to be cleared of their often incorrect allergy history and facilitates the use of beta-lactam therapy since beta-lactams are often the drugs of choice for many infectious diseases. Dr. Bland is a member of several organizations including Infectious Diseases Society of America (IDSA) and American College of Clinical Pharmacy (ACCP), where he is the chair of the ID Practice Research Network (PRN), which is the largest PRN with more than 2,500 members. He is also the co-founder of Southeastern Research Group Endeavor (SERGE-45) with Dr. Brandon Bookstaver, Associate Professor at South Carolina College of Pharmacy. This research group of nearly 40 hospitals is dedicated to helping and mentoring pharmacists to perform clinical research across the Southeastern United States. For fun, Chris loves spending time with his family, studying the Bible, serving at Savannah Christian Church, exercising, and traveling. He and his beautiful, pharmacist wife have 3 children.



Written by: Ali Willis  
(Savannah, GA)

### Inside This Issue:

Preceptor Highlight	1
Region at a Glance	1
Calculation: Nutritional Requirements	2
Critical Care Pharmacy	2
New Sepsis Guidelines	2
How to Stay Fit at Your New Job	3
Licensure in GA Q&A	3
Upcoming Events	4

## Region at a Glance: 706-AUG-USTA

Augusta serves as one of the four distance campuses for 3rd year UGA College of Pharmacy students and a region for 4th year Advanced Pharmacy Practice Experiences (APPE) rotations. APPE sites include Augusta University Medical Center, University Hospital, Doctors Hospital, Barney's Pharmacy, Eisenhower Army Medical Center, Charlie Norwood VA Medical Center to name just a few. Augusta, or the "Garden City," is known for being the home of the Masters Golf Tournament, which is held each April at the Augusta National Golf Club. Augusta is also home to the Greenjackets, a minor league baseball team affiliated with the San Francisco Giants. Situated along the Savannah River, the city offers numerous biking, running, and hiking trails along the Riverwalk and Augusta Canal, and many people take advantage of kayaking at the Savannah Rapids. A variety of local restaurants including Bee's Knees, Craft and Vine, and Farmhaus Burger, are located downtown, and numerous concerts are held at the James Brown Arena. Augusta offers a variety of educational and extracurricular opportunities for College of Pharmacy students!

Written by: Bliss McMichael

## Calculation: Nutritional Requirements

BA is a 26-year-old male trauma patient who underwent recent surgery. He is now recovering in the SICU. BA's weight is 79 kg, and his height is 183 cm tall. The medical team wants to start peripheral nutrition therapy. Calculate the total energy expenditure for BA (stress factor = 1.5 for major trauma; activity factor = 1.2 for non-ambulatory) and how many mL of 50% dextrose, 10% lipid emulsion, and FreAmine® 10% are required to replenish BA's calorie loss (extra credit for fluid needs calculation).

(see page 4 for answers)

Written by: Ben Albrecht  
(Augusta, GA)

## Critical Care Pharmacy

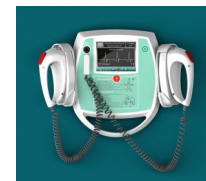
**CODE BLUE! CODE BLUE!** Hearing those words blast across the intercom not only gets your heart racing but also lets you know it is time to save a life. From treating septic shock to treating overdoses, pharmacists must acquire a vast array of knowledge to provide excellent patient care. The pharmacist's role can fluctuate during each encounter from administering cardiopulmonary resuscitation to preparing pertinent medications. If you enjoy making split-second decisions and taking part in the action, a career in critical care is for you!

During my time spent in Critical Care at St. Francis Hospital, I provided care for a variety of patients--young adults in diabetic ketoacidosis to elderly patients with terminal illnesses. While functioning as the pharmacist on the healthcare team, I answered drug information questions, streamlined antibiotic therapies, and ensured renal dosage adjustments were appropriate. I rounded daily through the medical surgery and cardiovascular intensive care units with an interprofessional team comprised of physicians, physician assistants, nurse practitioners, registered nurses, respiratory therapists, and dietitians. This experience highlighted the need for each discipline to work together to provide optimal patient care.

Aside from the excitement of rounding and attending codes, I had the opportunity to help develop a vancomycin and aminoglycoside dosing protocol with my fellow UGA student, Erin Burns. With our pharmacy education, research, and guidance from our preceptor, we were able to leave our rotation knowing we have made an impact for years to come. The challenges and exciting experiences offered during a critical care rotation allow students to showcase their abilities as pharmacists, and I highly recommended it for all 4<sup>th</sup> year students.



<http://www.vostrodesign.com/?portfolio=dephibrillator>  
<http://healthprofessions.udmercy.edu/programs/crna/agm/08.htm>



Written by: Zuri Hawkins  
(Columbus, GA)

## New Sepsis Guidelines

The European Society of Intensive Care Medicine and the Society of Critical Care Medicine have re-examined the definitions for sepsis and septic shock that were last reviewed in 2001. The new definitions aim to align with a better understanding of the pathophysiology of sepsis. There is no standard diagnostic test for sepsis, which has led to inconsistencies in reporting incidences and mortality rates. The original definition of sepsis began as an infection with two out of four SIRS (Systemic Inflammatory Response Syndrome) criteria. These criteria are no longer considered specific enough to diagnose a patient with sepsis.

qSOFA Variables	SOFA Variables
Respiratory rate > 22 br/min	PaO <sub>2</sub> /FiO <sub>2</sub> ratio
Mental Status	Glasgow Coma Scale Score
Systolic BP < 100 mmHg	MAP
	Vasopressors (type & rate)
	SCr/UOP
	Bilirubin
	Platelet count

Sepsis is now defined as a life-threatening organ dysfunction caused by a dysregulated host response to infection. The diagnosis of sepsis includes suspected or documented infection and an acute increase of  $\geq 2$  SOFA (Sepsis-related Organ Failure Assessment) points. The 2015 task force also developed a list of bedside criteria termed qSOFA for rapid identification of patients who may develop sepsis and require further examination. Septic shock is now defined as a subset of sepsis in which there are underlying cellular/metabolic and circulatory abnormalities that dramatically increase mortality. The diagnosis of septic shock includes persistent hypotension requiring vasopressors to maintain a MAP (mean arterial pressure)  $\geq 65$  mmHg and a serum lactate level  $> 2$  mmol/L despite adequate fluid resuscitation.<sup>1,2</sup>

Written by: Caroline Cruce  
(Savannah, GA)

1. Singer, M. et al. The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3). JAMA. 2016;315(8):801-810.
2. Shankar-Hari M, Phillips G, Levy ML, et al. Assessment of definition and clinical criteria for septic shock. JAMA. doi:10.1001/jama.2016.0289

## How to Stay Fit While Killing It At Your New Job

There are more than 600 different muscles in your body that require increased physical stress, consistent healthy eating, and lots of rest to stay strong. The first year of real employment never presents the ideal setting to meet these three conditions, mainly due to one significant limitation: time. Time is a very difficult obstacle to overcome in planning healthy meals and obtaining enough sleep. However, time can be managed effectively to exercise, if one is not hesitant to employ a little creativity during the few breaks allowed next year, through three user-approved, sure-fire workouts.

1. **Plank:** This a classic but can be done in practically any environment at any time. The plank is a great “core” workout where one remains in an altered push-up position with the upper body exerting its force on the forearms and shoulders. This can be done on any flat surface, such as floors and tables, or any two surfaces nearby, such as chair-to-chair, chair-to-table, and rolling chair-to-close friend, otherwise known as the wheelbarrow.
2. **Elliptical:** This quite the growing trend. This cardio and full-body exercise may look a little silly, but with increased stress settings and occasional minute sprints, this workout gets the job done in just twenty minutes. As one of the most experienced, elliptical aficionados, Ankit Patel, says, “The elliptical is the most strenuous physical activity available to all of humankind. Do it. It’s good.”
3. **Push-up:** This final workout will have every one of your co-workers admiring your physical ability. Push-ups put an adequate amount of stress on your upper body and core, while allowing for technique alterations to increase the intensity of the exercise. One can choose from many different forms to use, including incline, decline, jumping-jack, ballerina, swimmer, climber, disco, one-armed, finger-tip, nosedive, diamond, and many others.

No matter what exercise one chooses to do, never let time be an excuse to stay out of shape!

Written by: Ben Albrecht  
(Augusta, GA)

## How to Get Licensed in Georgia: Q&A

1. Where do I sign up for North American Pharmacist Licensure Exam (NAPLEX)/Multistate Pharmacy Jurisprudence Examination (MPJE)?

- ◆ <http://www.nabp.net/programs/examination/naplex>

2. Where do I sign up for Georgia Licensure?

- ◆ <https://gadch.mylicense.com/eGov/>

3. How do I Score Transfer?

- ◆ Go to <http://www.nabp.net/>
- ◆ Login with e-NABP profile ID
- ◆ Click on “NAPLEX/MPJE”
- ◆ Under “My Active Registrations,” click “Add Score Transfer”

4. When can I sign up for my exams?

- ◆ MPJE = April 12th, 2016
- ◆ NAPLEX = After May 13th, 2016
- ◆ Wet Boards = After May 13th, 2016
  - ◆ According to the GA Board of Pharmacy, you will be signed up automatically after graduation (May 13th). You will receive a date/time via e-mail. If you do not receive an e-mail in 3-5 days after May 13th, call GA Board of Pharmacy

5. What are the dates for the exams?

- ◆ MPJE = To be determined
- ◆ NAPLEX = To be determined
- ◆ Wet Boards = Thursday, June 16th, 2016

6. When will I receive my authorization to test (aTT)?

- ◆ 2-3 business days after the graduation date of May 13th, 2016



[http://etc.usf.edu/clipart/57800/57893/57893\\_ga\\_seal.htm](http://etc.usf.edu/clipart/57800/57893/57893_ga_seal.htm)



<http://clipartwiz.com/clipart-7688.html>



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Dianne May, Pharm.D., FCCP, BCPS  
Clinical Professor, UGA College of Pharmacy

## Upcoming Events

- April 22, 2016: Last Day of Rotations
- May 4-6, 2016: NAPLEX and MPJE Review Session
  - UGA College of Pharmacy
- May 6, 2016: Senior Banquet– 6:30 p.m.
  - Tate Student Center Grand Hall
- May 7, 2016: Graduation– 2:00 p.m.
  - UGA Performing Arts Center



### Answers to "Nutritional Requirements"

BEE =  $66.47 + 13.75(\text{weight in kg}) + 5(\text{height in cm}) - 6.76(\text{age in years})$

BEE =  $66.47 + 13.57(79) + 5(183) - 6.76(26) = 1877.74$

TEE = BEE x stress factor x activity factor

TEE =  $1877.74 \times 1.5 \times 1.2 = 4,225 \text{ kcal/day}$

Protein mL\* =  $1.5 \text{ g/kg/day} \times 79 \text{ kg} = 118.5 \text{ g}$  (x 4 kcal/g = 474 kcal/day) 10g/100mL =  $118.5\text{g}/\text{XmL} \rightarrow$

X = **1,185 mL of FreAmine® 10%**

Non-protein calories<sup>#</sup> =  $4225 - 474 = 3,751 \text{ kcal/day}$

Carb mL:  $0.7 \times 3751 = 2,625.7 \text{ kcal} \div 3.4 \text{ kcal/g} = 772.26 \text{ g} \rightarrow 50\text{g}/100\text{mL} = 772.26\text{g}/\text{XmL}$

X = **1,545 mL of 50% dextrose**

Lipid mL:  $0.3 \times 3751 = 1125.3 \text{ kcal} \div 1.1 \text{ kcal/mL} = 1,023 \text{ mL of 10\% lipid emulsion}$

Fluid needs =  $1500 \text{ mL} + 20(79-20 \text{ kg}) = 2,680 \text{ mL of fluid needed} \rightarrow$  **Need more concentrated dextrose & lipid emulsion!**

\*Hospitalized patients need 1.2-2 g/kg/day of protein. Protein provides 4 kcal/g.

<sup>#</sup>70% from carbs & 30% from lipids; 3.4 kcal/g of dextrose; 1.1 kcal/mL of 10% lipid