

The Pitt Capsule

THE UNIVERSITY OF PITTSBURGH
SCHOOL OF PHARMACY

American Pharmacists Month A Success!

By Kyle McCormick

Congratulations on another successful American Pharmacists Month! I think it is safe to say that you were definitely able to ___ __ __. As an organization, we took 62 blood pressures at the Maggie Dixon Heart Health Fair, provided patient care services and education to a combined 103 people at the Rite Aid Wellness Fair and Al Servicio de la Comunidad (a health fair for Spanish-speaking community members), screened patients' blood pressures at the Kidney Walk, walked 50+ strong in support of the fight against cardiovascular disease, and grew closer as a chapter through football games and Minute-to-win-it challenges. We also hope you were able to grow as a professional and advocate through the pre-election information session, Rutgers Fellowship presentation, and various committee meetings throughout the month.

The successes do not stop at the chapter level though. As a school, we have recorded 4,926 patient interactions, 721 blood pressures, and 3380+ drug therapy problems identified since the beginning of the semester!

Perhaps the best part about these numbers and the

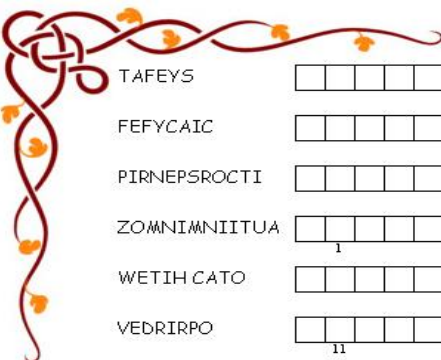
impact we made is that no individual person saw an extraordinary number of people, went to town taking blood pressures, or single-handedly identified 3,000 drug therapy problems. Rather, it was a combined effort.

Here's to everyone who took time to represent pharmacy in any fashion over the past month!

But things do not end with October. With 6 weeks left in the semester and ½-3½ years of pharmacy school left, countless opportunities will arise for you to ___ __ __ - you just have to rise to the occasion!

Read the rest of this issue to find out how you can get involved.

If you are a creative person and want to help out with either a **t-shirt design** or **video** contact us at pitt.aphaasp.eboard@gmail.com. Also, be on the lookout for a video synopsis of the successes of American Pharmacists Month and Midyear Regional Meeting.



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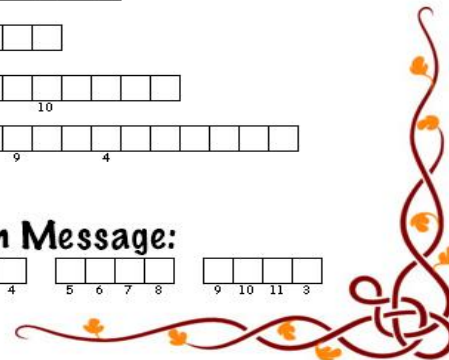
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"The collective voice of student pharmacists"



In This Issue...

Page 1	APhA-ASP
Page 2	PDC, P2 Update
Page 3	Life on Rotation, Faculty Bio
Page 4	Patient Care, PLS, Member of the Month
Page 5	PLS
Page 6	Rho Chi, PPA/SPAN
Page 7	IPSF, Social Committee
Page 8	Kappa Psi
Page 9	SSHP
Page 10	Opinion Column

Phi Delta Chi Update

By Josh Radel

October has been a busy month for the brothers and pledges of Phi Delta Chi. Pledging has kicked off in full scale with weekly events designed to teach our fifteen pledges about the traditions, history, and values of PDC. Through interviews, big/little pairings, and various social events, the brothers and pledges are becoming acquainted with one another and friendships are already beginning to form. In fact, when asked what they think of the pledging process, many of the potential brothers exclaimed, "We love it, you bet!"

In the community, several PDC brothers have participated in numerous outreach events. These include flu clinics, drug take back days, and the Maggie Dixon Heart Health fair. Academically, a handful of Mu chapter brothers have participated in the yearly ASHP Clinical Skills Competition here at Salk Hall. We are also excited to announce that we have added a new faculty advisor, Dr. Johnson, in addition to our current advisor, Dr. Poloyac.

Socially, brother Eric Emerson coordinated our first annual Alumni Tailgate for the Homecoming football game against Louisville on October 13th. Many current and past PDC brothers came out to grill, reminisce about old times, and watch football. After the game, brothers continued the fun over at Hofbrauhaus in South Side.

Looking ahead to November...

As many of you may have heard, Phi Delta Chi will be selling mugs and mini glasses that feature the School of Pharmacy logo. Mugs will be available for purchase for \$10 and mini glasses are priced at \$5. A complete set is available for \$13. If you have not received an order form and you would like one, you may contact me (Josh Radel) at jar117@pitt.edu. Orders and money are due to a brother of PDC by November 29th

Furthermore, PDC brothers will be again participating in "Movember", where we will grow mustaches in order to raise money for prostate cancer awareness. This is especially important, as this is the most common cancer affecting men today in the United States. In fact, one in six men will be diagnosed with prostate cancer during his lifetime.

We wish everyone good luck on their upcoming midterms and look forward to another month of continued success!

P2 Update

By Trey Draude

P2s are going crazy with exams and practicums galore! The best way to get through Hell Week though is to just keep moving! We are currently holding our class t-shirt and fleece sale (money due by 11/28 after Thanksgiving). These clothes make perfect gifts for the holidays!! The class will also be participating in their annual holiday gift exchange/party in the near future! Pictures to come!

"Permanence, perseverance, and persistence in spite of all obstacles, discouragement and impossibilities: It is this, that in all things distinguishes the strong soul from the weak."

– Thomas Carlyle

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Life On Rotation...

Name: Elyse Weitzman

Areas of interest: Ambulatory care, academia, public health, managed care

Plans after graduation: PGY1 Pharmacy Practice Residency

Rotation site: The Cleveland Clinic – Emergency Department

Short description of site: Cleveland Clinic is a large, beautiful, highly respected academic medical center located near downtown Cleveland, OH. It is a great place to interact with other learners across the medical professions and contribute to the health care team. In the waiting room, walk-ins are triaged to Urgent Care or the ED, providing for a smart care and payment model. A majority of the patients we treated had asthma exacerbations or chest pain complaints. Within the past year, 4 pharmacists have been added to the workforce in the ED (they rotate and all provide guidance as preceptors), and their work shifts were extended as a result of advocating by both the pharmacists and other members of the healthcare team. Much of my time was spent interviewing patients, performing medication reconciliation, and documenting discrepancies for a new, valuable pharmacist initiative. Otherwise, I was reviewing patient charts, observing coding, stroke, and minor surgical procedures, and helping with a post-implementation medication safety project.

Most important "take-away" experience or message: Expect to be intimidated and learn a lot on your first rotation. If you are not, push harder. By completing this rotation, I realized that I missed having continuity of care when seeing patients. In the ED, patients are in and out within about a day, and some more serious cases will be admitted.

Fun story/moment: One day, one of the pharmacists asked how I would calculate renal function for a patient with a sex change. I had no clue. She explained that you use the sex from birth, and recounted a patient encounter.

Advice to P3s choosing rotations: Don't be afraid to challenge yourself and test out areas of pharmacy practice with which you are less familiar. If you have not had strong inpatient, hospital experience, make sure to do at least one

Faculty Bio.

Dr. Beth Minnigh

Name: Beth Minnigh

Alma Mater:

Allegheny College, Meadville PA, BS Chemistry
Univ of Pgh, Sch of Pharm, PhD Pharmacology

Area of practice: Supervisor of the Small Molecule Biomarker Core (with Sam Poloyac, Director)

Analysis of endogenous hormones (estrogens, androgens, for example) that serve as biomarkers for depression, postmenopausal conditions, etc. Analysis of drugs to support various preclinical and clinical studies conducted by Pitt researchers.

Classes currently teaching: Principles of Drug Action, Drug Development I, Infectious Disease II, Neuropsychology, Endocrinology, Pharmacology in Rehabilitation (for undergrad Rehab Sci students), Pharmacology (for graduate Physical Therapy students), Pharmacology and Therapeutics (for Dental students and Pharm Sci grad students)

Favorite part of your job: Being able to conduct research and teach in equal amounts

Advice to students: Politely question everything

Favorite quote: "I am certain there is too much certainty in the world." - Michael Crichton

traditional acute care rotation (as opposed to an ED rotation, as an example). If you want an experience rounding with a team and caring for the same patients for at least a couple of days, do not choose the ED as a practice site. Rotations provide the opportunity to challenge you clinically, professionally, and personally, especially for those preparing for a residency. Oh, and if you decide to choose a location outside of Pittsburgh or your home town, be sure to explore the area and have fun too!

Feel free to contact me if you want to know more!
Erweitz5@gmail.com

Patient Care Participates In Many Great Events!

By Sam Becker and Katie McGuire

It has been an exciting few weeks for patient care! We participated in numerous events and made a lot of progress on establishing new projects. First we participated in the Rite Aid Wellness Fair, where students talked to numerous patients especially children about proper medication disposal and proper eating habits. Additionally, we participated in the Maggie Dixon Heart Health Fair where students screened 60 patients for hypertension and there was even a guest appearance by Jamie Dixon.

We have numerous upcoming projects that students are participating in such as a blood pressure screening at the Pittsburgh Zoo. Additionally, students will be attending the Diabetes Expo at the convention center on Saturday, November 10, from 8AM- 4PM. We are working on setting up events at local schools where students can talk to parents about proper drug disposal and chemical dependence. As always, if you have any project ideas or questions please talk to us (Katie and Sam) or email us at asppatientcare@gmail.com.

Below: University of Pittsburgh pharmacy students participate in Rite Aid Wellness Fair during American Pharmacists Month.



PLS Updates

By Tina Elgin

Interested in expanding your leadership in pharmacy? Want to help organize events for your fellow classmates to advance our profession? Then you should check out Phi Lambda Sigma! Many of you have already participated in events that PLS has organized, but your chance to have a role in the organizing and planning of these events is here now!

At the annual ice cream social on Wednesday Oct. 31st, President-Elect Kathryn Wersosky gave a presentation about the key components of being a PLS member. She detailed the events we plan each year, such as the new student orientation and mentoring program, ice cream social, auction to benefit the Grace Lamsam Program and spring and fall leadership retreats.

ASP Member Of The Month

Name: Cara Mazzarisi

Year: P2

Area of Interest: Clinical Pharmacy

Favorite ASP Project/Event and why: Project CHANCE is my favorite ASP project. Participating in this project involves me in the patient care experience at Birmingham and has given me the opportunity to see the impact pharmacists have on patients in the community. The project has also taught me a lot about caring for underserved patients and has allowed me to develop skills I would otherwise not learn until later in my pharmacy school career.

Congratulations also go out to the other Member of the Month, **Lauren Cirrincione!**

She also detailed the benefits of being a PLS member, such as working closely with other students and faculty on various projects and gaining more valuable leadership experience in the school and community.

The PLS application is currently available on the School of Pharmacy Portal, under the organizations tab. Completed applications will be due on January 11th, 2013 before midnight. The application requires a letter of recommendation from a current PLS member, so it might be beneficial to speak with a member about the requirements of membership and what to expect before you apply. Phi Lambda Sigma is a student leadership organization that recognizes other student leaders, so that means that current members select the new members based on the applications and letters of recommendations.

Current President Chrissy Jordan emphasized at the

ice cream social that PLS should apply because we realize they do not have an extensive amount of pharmacy leadership, but applicants are relatively compared to other members in their respective class, not the entire pool of applicants. Students from every class are welcome to apply as well! Applicants are also encouraged to have a letter of recommendation submitted by a faculty member, even though it is not required for the official application. We hope to see your brightest pharmacy leadership showcased in your application!

Current officers are listed on the PLS section of the PoRxтал, and a complete listing can be found on the Pitt PLS website. Feel free to direct any questions to Chrissy Jordan at philambdasigma@gmail.com, Kathryn Wersosky at kew53@pitt.edu or any PLS member. We all look forward to reviewing your applications and welcoming new members in the spring semester!

LKS Welcomes New Members



By Shayna Stout

This year's recruitment was a very successful one for Lambda Kappa Sigma, with 27 new members that attending the annual pinning ceremony last month (shown in the photo above). In addition to meeting their big sisters, the new members received a pin, which was the characteristic triangle symbol of Lambda Kappa Sigma, and will wear the pins until the initiation ceremony in early November. LKS would like to welcome their new members, and the sisters are looking forward to their events with their new members throughout the school year!

In addition to various service and professional projects, LKS formed a new committee this year, geared toward an interprofessional charity event next semester. The ladies of LKS are in the process of planning "Dr. Salk

Hall: Interprofessional Person of Mystery," to be held sometime in the spring term. This new and exciting event will invite both male and female participants from all classes of both Pitt School of Pharmacy and Pitt School of Dentistry, in a competition involving dancing, talents, interviews, professional wear, and much more! The participants will be awarded points by faculty judges, and eventually, one person will emerge with the title of "Dr. Salk Hall." Additionally, one of the most exciting parts about this competition is that most of the proceeds will go to a charity of the winner's choice!

Alongside the competition will be raffles with various baskets and goodies, a 50/50, and complimentary drinks and snacks! The event is to take place sometime in late January or early February of next year; however, those interested in being a contestant or nominating a contestant can act now by emailing drsalkhall@gmail.com.

LKS is continuing their "Lamb Light" sister recognition program this semester, which involves all sisters voting for a sister of the month during a general body meeting. The sister is one who has made special contributions to LKS within that past month. October's Lamb Light Winner was Julia Zecchini (P2)... congratulations Julia and great job!

LKS hopes that everyone had a great October, and has a fun and festive November!

Rho Chi Updates

By Greg Trietley

Dr. Jason Prokopik will speak at this month's Phi Lambda Sigma/Rho Chi lecture series on Wednesday, Nov. 14 at noon in Salk Hall 456. Dr. Prokopik, who graduated from the University of Pittsburgh School of Pharmacy in 2000, will speak about drug representatives, the pharmaceutical industry, fellowships and long-term care pharmacies. Free lunch is provided.

Rho Chi would like to thank everyone who participated in the school blood drive in October. If you see someone in class with an "I Bleed Black and Gold" shirt on, high-five them, because they gave blood!

The topic of this month's Rho Chi Health Talk at the Salvation Army Adult Rehabilitation Center is HIV/AIDS. The health talk, located a block from the 10th Street Bridge in the South Side, will take place on Monday, Nov. 12 at 6:30 p.m. and will last one hour. What is the life expectancy of someone diagnosed with HIV today? Come to the lecture to find out!

Need some business cards for your next regional meeting? Make yourself feel like a pro with Rho Chi's business card sale. Contact Cory Hale at cmh110@pitt.edu or Chelsea Claar at clc170@pitt.edu for more information. Orders will be distributed in early December.

Rho Chi is also selling its **lab cards** this year for five dollars. These laminated, color-coded "cheat sheets" contain medical abbreviations, in-range lab values, empiric antibiotic treatment choices and more. They're a metaphorical—and possibly actual—lifesaver in pharmacy school and in the field. Don't enter the lab on the eighth floor without them. Contact Cory Hale or Chelsea Claar for an order form.

Rho Chi's tutoring service is ongoing. If you're interested in a tutor, contact Samantha Holliday at slh89@pitt.edu for details. P2 and P3 students interested in tutoring should contact Pam Lyons at pjl27@pitt.edu.

For questions about the Pitt chapter of Rho Chi, please feel free to e-mail us at pittrhochi@gmail.com.

#Merica

By Brandon Antinopoulos

The votes have been cast. America has spoken. A winner has been decided. Your President of the United States of America is...

At the time the Pitt Capsule will be circulated, we will know the winner of the 2012 presidential election. This will be my third election in which I will have voted, and the third time where a clear winner cannot be easily predicted. My only hope is that everyone made their voice heard for what they believe is America's best course of action for at least the next four years.

Of the many issues the candidates faced, healthcare and the economy seemed to be the most important. "How does this all affect me?" you may wonder. What I can tell you is that the government pays for the majority of prescriptions in community pharmacies (Medicare and Medicaid) and continues to be the biggest "customer." Along with that, there is credible concern

of whether or not USA even has the funds necessary to pay for all the healthcare it does now. Whoever wins this election will definitely play a significant role in how we will practice and be reimbursed as pharmacists. If there is one thing that we all can agree on, it's that change is coming, and we're on the front lines to witness how healthcare in America will be provided and paid for in this changing landscape.

Like I said, my hope is that everyone voted in this election. Everyone is quick to vote for their favorite singer or dancer or sports team, but sometimes fall short on their right and duty as an American citizen to stand up and be counted once every four years. Starting today, the next chapter in the story of our nation will be written, and I hope your name gets credited as an author.

Global Plans, Local Actions

By Ravi Patel

This October, the International Pharmaceutical Student Federation (IPSF) worked on its efforts to elaborate and collaborate on our plans for global/public health. At the “Al Servicio de la Comunidad” event, our committee members were trained to provide members of the Spanish-speaking community of Pittsburgh with blood pressure screenings and resources for hypertension (or “hipertensión” en Español). Of the event, Elena Schaller (P1) said, “ [It] was a great opportunity to learn how to perform blood pressure screenings, as well as practice my Spanish skills! I am always looking for events where pharmacy and anything Spanish-related overlap.”

At our most recent Committee meeting, we learned about the global impact of tobacco production, advertising, and use. In our upcoming months, we look forward to collaborating with the global health students groups from the other Schools of Health Sciences on an event for the upcoming “International Week” at the University. Our plans for World AIDS Day are also starting to take form as we learn about the Graduate & Professional Student Government’s collaborative events with the Pittsburgh AIDS Task Force. Keep an eye open for upcoming announcements about our Committee’s joint, video-conference meeting with other chapter from around the world. Until then: Think Global, Act Local, Visit our website (<https://sites.google.com/site/upittaphaaschapter/ipsf>).



Above: Students Emily Linville (top) and Elena Schaller (bottom) practice their Spanish and patient care skills at “Al Servicio de la Comunidad”.

Social Committee Plans Upcoming Events

By Ashley Firm

Social committee has been quite busy planning upcoming events and working with other health science schools in promoting their events and enhancing our interprofessional relationships. Hope everybody had a great time at the Med School Halloween Party and we hope to work with them for more events in the future.

Pharmacy weeks are starting to come together. We recently went on a tasting at the Westin to pick our dinner and dessert options. So far the schedule for Pharmacy Weeks is as follows: Wednesday January 30- Tucci Lecture, Thursday January 31- PLS Auction,

Friday February 1- White Coat, Saturday February 9- Formal. Be on the lookout for No Talent Talent Show, Pharmacy Olympics and many other events to be added!

The Social Committee has also been hard at work with IPSF to plan events for World AIDS Day on Saturday December 1st. We will be participating in a rally starting on CMU’s campus on the corner of Forbes and Morewood followed by a rally on the William Pitt Union lawn including tabling, give aways, food and a DJ. Later that night, there will be a trivia night at the Holiday Inn Oakland for those 21+.

Join us at our next meeting Wednesday November 14th from 12-1 in the PCLC and help plan an end of semester study break (Keep December 8th open!)

Kappa Psi: Pledging Well Underway!

By Jon Lucas

Greetings from Beta Kappa! Shortly after our last update, Beta Kappa proudly welcomed 48 pledges at KY Induction, which marked the official start of the fall pledging period. The brothers were ecstatic to bring in such a large pledge class and viewed this new growth in the chapter with great pride! Over the past few weeks the pledges have been busy learning about fraternity history, getting to know all the brothers, and understanding what it means to be a Kappa Psi brother.

Naturally, the pledges have had many opportunities to bond with their bigs as they guide them through pledging. During one event in particular, our trip to Scarehouse in Etna, PA, bigs and littles stuck together to make it through the haunted house as zombies and other creatures lunged at them from the shadows. Brothers traveled through in separate waves and had the chance to take a breather, enjoy refreshments, and watch others on a live hidden cam in our reserved RIP room (scary version of a VIP room) both before and after their adventure.

In addition to strictly fraternity-related activities, Beta Kappa brothers have participated in several philanthropy projects in October. At the Rite Aid Wellness Fair in Glenshaw, PA, brothers educated patients about topics including immunizations, Generation Rx, hypertension, and childhood ailments. They also provided candy blisterpacking and pumpkin painting for younger patients and helped to sell vegetables donated by a local farm with all proceeds going to charity. Brothers also performed blood pressure screenings at the Maggie Dixon Heart Fair and educated patients about the importance of regular blood pressure monitoring.

During the last weekend of October, Beta Kappa contributed to a pivotal historical moment in Kappa Psi history by hosting the very first Mountain East Province Assembly! As a result of province realignment occurring over the summer, Province II no longer exists and Beta Kappa is now part of the brand new Mountain East Province. Brothers from 7 other collegiate chapters in West Virginia, Maryland, Pennsylvania, Washington D.C., New York, and Virginia all came to Pittsburgh to build the foundation of the new province and form new relationships between all the collegiate and graduate chapters.

Aside from attending the business meeting, brothers also had the chance to converse and have fun during lunch at the Hard Rock Cafe and the Friday and Saturday night social events held at Buffalo Blues and Pittsburgh Cafe (Pcaf). Out of town brothers also had the opportunity to tour the Beta Kappa House Saturday evening after eating their delicious



Beta Kappa brothers attend the 1st Mountain East Province Assembly held on campus at the Holiday Inn.



Brothers Kelsey Siebold and Sam Becker educate patients about medication misuse and proper disposal (Generation Rx) at the Rite Aid Wellness Fair in Glenshaw, PA.

banquet dinner of filet mignon or chicken marsala with creamy cheesecake for dessert at The Holiday Inn! Beta Kappa loved hosting this province assembly and definitely look forward to Delta Xi chapter hosting the Spring 2013 Mountain East Province Assembly in Virginia.

As pledging continues and the pledges inch closer and closer to becoming full-fledged brothers, the Beta Kappa brothers cannot wait for upcoming events including Lineage Dinner at Spaghetti Warehouse in November and our annual Ski Trip held at Wisp Ski Resort, MD in January!! Keep up the work pledges and continue striving towards joining the brotherhood!! We'll see you on the other side sometime in the near future!

Clinical Skills Competition A Success!

By Sudha Mokkapati

The semester is flying by, and October has come to a close, but SSHP has been very active during the past month! Our CV workshop was well-attended, and we learned a lot of helpful tips on compiling a concise and effective CV that Dr. Pummer and several other practicing pharmacists shared with us.

October also featured our Clinical Skills Competition, in which pairs of students were given two hours to complete a complex patient case and the top ten teams were given the opportunity to orally present their findings to a panel of judges. Congratulations to the top three teams: P4s Lindsay McCartney and Desiree Kosmisky, Allie Lazar and Luke Berenbrok, and P3s Sarah Ward and Lukas Martin! Lindsay and Desiree will be advancing to compete at the national level! We hope to see more students participating next year!

With regard to our upcoming events: the **Residency Panel** will be held **TONIGHT: Wednesday, Nov. 7th, 5pm in Salk 458 (not 456) and refreshments will be provided.**

This event is open to the whole school, so feel free to bring all those questions you've been dying to ask, because tonight is the time! There will be several residents present to answer your questions who will be great resources because they recently completed the application process themselves. To close up the month, we will be having a member-exclusive lecture event, with a clinical pharmacist speaking on a topic relating to infectious disease. This last event will be held during the week before Thanksgiving break, time and location TBA. See you all tonight at the **Residency Panel!**



P4 students Allie Lazar and Luke Berenbrok present their findings to the panel at the Clinical Skills Competition.



P2 students Anthony Boyd and Matt Dukewich work on their response to the case at the Clinical Skills Competition.



P4 students Lindsay McCartney and Desiree Kosmisky give the winning presentation.

Education in the Palm of Your Hands, Slipping Through Your Fingers

By Ravi Patel

Fifteen minutes before an exam, rather than studying, I gazed at a flier on a wall of the medical library. It described an upcoming lecture about the use of a “clinical-reference tool” promising that practitioners didn’t, and couldn’t, know all the information relevant to patient care. Intrigued, my gaze shifting from the flier directly passed my note and to the monitor, I searched for and found such a tool through the medical library online resources. I perused the guidelines, tables, textbook chapters, etc. looking for information relevant to the impending exam. I eventually found, almost disappointingly, a list of guidelines outlining the information I was supposed to have “learned” for the upcoming exam. Though I was disappointed by the futility this held in context of my “studying”, I found solace in the potential this tool held for my future practice. Even if I bombed the exam—this premonition becoming a sad reality—I would still “know” the information in my clinical practice through these guidelines and newfound tool.

This contrast between the exam and the “clinical-reference tool” lead to consider the nature of the information we “learn” and the nature of how we apply this information to practice. When information provided by a lecturer is available to any student’s hands within seconds, what is the role of such information in a medical curriculum? What is the role of learning how to access information in such a manner?

It is said that the half-life of medical education is about 5 years¹ and the doubling time for scientific literature is 10 years². When this year’s Pls graduate, last year’s graduates will have forgotten or have outdated knowledge of have of what they “learned” and ¼ of all the published scientific information in the world will be new. Luckily, growth of knowledge comes with growth in technology.

For years, the focus of education has been based on static, uninspiring facts and figures. I convince myself that perhaps this education is not an anachronistic relic of traditional rote education. As a student, I argue (against myself,

really), that there may be role for static facts and numbers in medical education.

There is an odd relationship between the lectures on disease pathophysiology and the correlating chapters in a tome. A lecturer relies on a reference, like the “Dipiro” text, to be the reliable reference for students and practitioners alike while at the same time this tome depends on lecturers to cull the information into a comprehensible, comprehensive, and—possibly even—an interactive form for students. Education depends on more than a regurgitation of medical information from practitioner to student. Rather, students’ learning of facts and numbers create a factual foundation on which reasoning skills, medical decisions, and referencing abilities should be formed.

Is this how our education is formed? Kind of. Currently student sleep through classes in which they are told to memorize tables, mechanisms, and names. This drollery comes to a climax during an exam when facts statically imprinted through lectures and endless hours at a library carrel are solicited by multiple-choice exams. This can be adapt, however, to reflect our eventual practice. Such an adaptation would begin with an explicit acknowledgment that memorization of facts is only a small roll. This could eventual lead to the replacement of multiple choice exams with open-note (or, better yet, reference based) exams which will more accurately reflect how students will one day practice.

Until then, I’ll put off memorizing dosing for different routes of administration of antibodies with the close-equivalent of staring at a wall, with or without a flier.

- Gorman PJ, Meier AH, Rawn C, Krummel TM. The future of medical education is no longer blood and guts, it is bits and bytes. *Am J Surg.* Nov 2000;180(5):353-356.
- Firestein, S. *Ignorance: How it Drives Science.* USA, Oxford University Press; 2012