

An award-winning, bimonthly, electronic, student-operated newsletter publication by the St. John's University College of Pharmacy and Health Sciences Rho Chi Beta Delta chapter











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The Rho Chi Society encourages and recognizes excellence in intellectual achievement and advocates critical inquiry in all aspects of Pharmacy.

The Society further encourages high standards of conduct and character and fosters fellowship among its members.

The Society seeks universal recognition of its members as lifelong intellectual leaders in Pharmacy, and as a community of scholars, to instill the desire to pursue intellectual excellence and critical inquiry to advance the profession.



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Alex, Gini, Shirley, Anna, Jeffrey, and So Yi (from Left to Right), pictured with Dr. Zito, Dr. Etzel and the 2017 Executive Board (Back Row)

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We are always looking for creative and motivated students to join our team!

If you are interested in becoming a Rho Chi Post editorial team member, visit:

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QUOTE OF THE MONTH

By: Matthew Kahn, Graphics Editor

A smart man only believes half of what he hears, a wise man knows which half.

Jeff Cooper



Concierge pharmacy practice: RxVIP and your future

By: Lameesa Dhanani, PharmD Candidate c/o 2019

*Disclaimer: In November 2018, the FDA issued a Safety Communication against changing a patient's medications solely based on the genetic test results since these genetic tests have not been reviewed by the FDA.

In a competitive market where pharmacy jobs are scarce, I always remind myself why I started my journey into the pharmacy world. My life goal has always been to help others. As a junior in high school, I knew I wanted to make my life goal my career. The question was how? I remembered my middle school teacher telling me that healthcare professionals will always be in demand. At the time, I had many family members on medications that I couldn't even pronounce. What did these medications do and why were they taking them? I was determined to find out and help patients better understand their medications. I wanted to help patients gain control of their health and live better quality lives. As a sixth-year pharmacy student nearing the end of my training, I'm unsure how to move forward. Now that I have chosen a career path to accomplish my goal, which aspect of pharmacy would make me excited to go to work in the morning?

Enter RxVIP.

Founded due to the need to connect with patients,
RxVIP is a network of pharmacists and pharmacy
students looking to advance their careers. They work
collaboratively with physicians at the physicians' offices
to deliver a suite of value-based services that enhance

patient outcomes. RxVIP offers services such as pharmacogenetics counseling and testing, chronic care management, remote patient monitoring, and wellness prescription checkups that help patients manage their medications.

Ken Sternfeld, RPh, is a concierge pharmacist and the founder of RxVIP as well as a St. John's University alumnus. He started RxVIP by working collaboratively with a primary care physician to help his patients once a week on Fridays at the physician's family practice. When Mr. Sternfeld practiced as a community pharmacist he wanted to connect with patients, however, he had a difficult time doing so in the community setting.

According to Mr. Sternfeld, RxVIP is an extension of the care team that is already in place at a primary care physician's practice. He states, "As pharmacists, we are the medication experts. We take the time to counsel patients on cost-saving and life-saving solutions right in the physician's office and remotely."

Participating in an Advanced Pharmacy Practice
Experiential (APPE) rotation at RxVIP opened my eyes to other possibilities and ways pharmacists can serve the healthcare community. With pharmacogenomic testing, patients have the opportunity to optimize their medication therapy by taking a simple, two-minute cheek swab. Pharmacists and pharmacy students review the pharmacogenetic reports and explain to the physician how the results may affect his or her patients. For example, the medication atorvastatin (Lipitor ®) requires



metabolism which is regulated by the expression of the genes KIF6 and ABCB1. Without these genes, patients are unable to properly metabolize the medication and do not benefit from its cholesterol-lowering actions. They may also experience more adverse effects such as myalgia. If the patient is experiencing adverse effects, as a pharmacy team, our intervention would be to suggest to the physician to switch the patient from atorvastatin to rosuvastatin (Crestor ®) which, in many patients, is metabolized normally¹. These explanations allow for the intricate incorporation of three key players in the healthcare industry - the physician, the pharmacist, and the patient. The pharmacist is no longer solely a dispenser of medications, but instead, a crucial member of a patient's overall wellness team.

The APPE rotations that RxVIP offers give Ken
Sternfeld and his team opportunities to mentor
dedicated pharmacy students who are future leaders of
the profession. Following the educational pathway that

Mr. Sternfeld has created allows the healthcare industry to recognize pharmacy students and pharmacy interns as healthcare providers. Providing all the services that RxVIP offers allowed my fellow rotation interns and I to become patient-centric professionals.

As the end of my rotation with RxVIP neared, I asked Mr. Sternfeld what message he wanted to deliver to pharmacy students. He very astutely stated, "The message that RxVIP hopes to deliver is that students can practice at the height of their license as concierge service providers. I want to assist students in any way that I can in this process".

SOURCES:

1. Gelissen IC, McLachlan AJ. The pharmacogenomics of statins. *Pharmacol Res.* 2014; 88:99-106. doi: 10.1016/j.phrs.2013.12.002

Has your article been published in an issue of the Rho Chi Post? If so, congratulations!

Here is a suggested format for citing / referencing your work:

[Author(s)]. [Article Title]. Rho Chi Post. [Year and Month Published]. [Volume]([Issue]):[Pages].

To view some examples visit: <u>Citation Guidelines</u>



Food and Drug Administration (FDA) approves Cassipa®: a new dosage strength sublingual film of buprenorphine and naloxone for maintenance treatment of opioid dependence

By: Maria Spilios, PharmD Candidate c/o 2019

Opioid dependence is a major public health concern. Misuse of prescription opioids and heroin affects more than two million Americans and an estimated fifteen million people worldwide per year; the prevalence of misuse and addiction is rapidly increasing with each passing year. More than 20,000 deaths in the United States were caused by an overdose of prescription opioids in 2017 and another 13,000 deaths were a result of heroin overdose. According to Dr. Robert Anderson, PhD, chief of the Centers for Disease Control and Prevention mortality statistics branch, "Drug overdoses are now the leading cause of death in U.S. adults under age 50, and opioids account for more than half of all drug overdose deaths."

Opioids are a class of drugs that act on the nervous system to produce feelings of pleasure and pain relief.¹ They work as mu-opioid receptor antagonists to inhibit ascending pain pathways. The causes of opioid dependence and addiction are complex and vary from patient to patient. The condition results from a combination of genetic, environmental, and lifestyle factors and treatment of patients with acute and chronic pain not attributed to cancer or end-of-life conditions is a challenge for many clinicians. Evidence-based guidelines on duration of therapy postoperatively and in acute care settings is lacking. Over the last two decades, the over prescribing of opioids has resulted in many unintended consequences, including dependence and abuse.² In terms of genetic factors, the mu-opioid receptor is produced from the

OPRM1 gene and variations in this gene appear to influence how the body responds to opioids, including the amount of opioid needed to achieve pain relief. FDA Commissioner Scott Gottlieb, M.D. stated, "There's an urgent need to ensure access to, and wider use and understanding of, medication-assisted treatment for opioid use disorder. The introduction of new treatment options has the potential to broaden access for patients".3

On September 7, 2018, the Food and Drug Administration (FDA) approved Cassipa® (buprenorphine and naloxone) sublingual film. This film provides a new dosage strength - 16 milligrams/4 milligrams - in hope of promoting wider use and understanding of medication assisted treatment for opioid use disorder. Medicationassisted treatment (MAT) is an approach that combines FDA-approved medications, which currently include methadone, buprenorphine, and naltrexone, with behavioral therapies to treat opioid use disorder.³ At appropriate doses, buprenorphine reduces opioid withdrawal symptoms and the desire to use opioids while simultaneously decreasing the pleasurable effects of other opioids. Buprenorphine works by binding to mu opioid receptors in the central nervous system with high affinity and is a partial mu agonist. Naloxone is a pure opioid antagonist that competes with and displaces opioids at the opioid receptor sites. Using these two drugs in combination allows for a slow, decreasing titration of opioids which is aided by weaning down with buprenorphine and naloxone in the event that the patient does take an opioid dur-

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ing the titration process. According to the Substance Abuse and Mental Health Services Administration, patients receiving MAT for treatment of their opioid use disorder cut their risk of death from all causes in half.³

Cassipa® was approved through an abbreviated approval pathway, relying on the FDA's finding that a previously approved drug is safe and effective.³ In this case, the previously approved drug included multiple strengths of Suboxone®. Cassipa® should be used as part of a complete treatment plan along with psychosocial support and counseling after patient induction and stabilization. Adverse effects commonly seen with buprenorphine and naloxone sublingual films are oral hypoesthesia, glossodynia, nausea, vomiting, constipation, oral mucosa erythema, and hyperhidrosis. Pharmacists should counsel their patients on how to identify these adverse effects and can provide supportive care, if needed, in order to help an individual patient combat the opioid epidemic. Signs and symptoms of withdrawal may also occur with medications such as buprenorphine

and naltrexone and as a result, only Drug Addiction Treatment Act (DATA) certified prescribers may prescribe these products to ensure they are used safely. The FDA will continue to evaluate additional therapies that can be beneficial in treating opioid use disorder and addressing the national crisis of opioid addiction.

SOURCES:

- 1. Genetics Home Reference. Available at: https://ghr.nlm.nih.gov/condition/opioid-addiction#statistics. Accessed 10/11/2018.
- 2. Alexander LM, Keahey D, Dixon K. Opioid use disorder: A public health emergency. JAAPA. 2018;31(10):47 -52.
- 3. U.S. Food and Drug Administration. FDA approves new dosage strength of buprenorphine and naloxone sublingual film as maintenance treatment for opioid dependence. Updated 9/7/2018. https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm619864.htm. Accessed: 9/30/18.

Read Something Interesting in the News? Want to share it with your Peers? Submit your articles to the Rho Chi Post!

Send us an email: RhoChiPost@gmail.com



Food and Drug Administration (FDA) warning about biotin interference in laboratory tests

By: Rizwan Atiq, PharmD Candidate c/o 2019

Biotin is a nutrient that is present in certain foods and is available as a dietary supplement. It is present in many multivitamins as well as sold as its own supplement in pharmacies and supermarkets. It is marketed as a vitamin which is used to improve the health of hair, skin, and nails. The recommended daily intake of biotin is approximately 30 mcg.¹

In November of 2017, the Food and Drug Administration (FDA) released a warning which put biotin under surveillance. The FDA warning stated that biotin can considerably interfere with certain lab tests and cause incorrect results which have the potential to go unnoticed by laboratories and healthcare professionals. Inaccurate test results may lead to inappropriate patient care or even a misdiagnosis. One lab value that biotin interferes with is troponin. A patient's troponin level is an important biomarker in the diagnosis of a heart attack and a falsely low level may lead to a misdiagnosis. Lab tests such as cardiovascular diagnostic tests and hormone tests utilize biotin assays, therefore, these tests may yield inaccurate results if the patient is consuming excess biotin.²

In July of 2018, a case report was published by Köhler and colleagues in Deutsches Ärzteblatt International which discussed a 47-year-old man with multiple sclerosis who presented to his physician's office for a routine follow up for a change in his drug therapy. During the follow-up he was found to have hyperthyroidism with positive thyroid-specific autoantibodies - a diagnosis which was made based on an immunoassay that utilizes streptavidin-biotin interactions to detect specific proteins and nucleic acids that are associated with disease state abnormalities. The patient was asymptomatic and his increased thyroid laboratory finding was not correlated with any clinical abnormality, thus, no treatment for hyperthyroidism was initiated. However, upon further questioning, it was found that the patient had been taking 300 mcg of biotin daily. The clinical team then performed another non-biotin related lab test to determine the patient's thyroid levels which yielded normal findings that were consistent with his asymptomatic

presentation. This case supports the FDA's warning regarding discrepancies in laboratory results that may be due to biotin interference with diagnostic tests.³

There are some precautions health care providers can take to help prevent errors involving biotin from occurring. Patient education is an important factor. Health care providers should talk to their patients about any biotin supplements they may be taking, including supplements marketed for hair, skin, and nail growth, and explain that biotin has the potential to interfere with lab results that may be necessary for a life-saving diagnosis. Communication between healthcare providers and laboratories is also important. Laboratories should be made aware of which patients are taking biotin supplementation.

The FDA is currently monitoring reports of adverse events associated with biotin interference in laboratory tests through MedWatch, an agency specific adverse event reporting program.² Pharmacists can play a key role in preventing potential errors by educating and counseling patients and their physicians. Many patients purchase over-the-counter supplements, including biotin, at their pharmacies. When a patient purchases the supplement, pharmacists should counsel them to notify their doctors that they are taking biotin supplements as well as inform them of the potential interference with certain lab values.

SOURCES:

- 1. Office of Dietary Supplements Biotin. NIH Office of Dietary Supplements. https://ods.od.nih.gov/factsheets/Biotin-Consumer/. Published 12/08/2017. Accessed 05/23/2018.
- 2. Biotin (Vitamin B7): Safety Communication May Interfere with Lab Tests [FDA Safety Communication].
 Gaithersburg, MD. https://www.fda.gov/Safety/MedWatch/SafetyInformation/

SafetyAlertsforHumanMedicalProducts/ucm586641.htm Posted and accessed 05/20/2018.

3. Köhler VF, Mann U, Mann WA. Biotin Interference in the Measurement of Thyroid Hormone. Dtsch Arztebl Int. 2018;115(29-30):500. doi: 10.3238/arztebl.2018.0500.



RHO CHI POST: TEAM MEMBERS



@ Anna Diyamandoglu 5th Year, STJ; Editor-in-Chief

Throughout my time in the PharmD program, my understanding of pharmacy as a profession has evolved and deepened as much as my desire to create awareness, particularly to non-science students, about the diverse role pharmacy plays in various healthcare and non-healthcare settings. I have always had an affinity for writing and look forward to combining my interests in literary composition, editing and pharmacy to produce relevant issues which both pharmacy students and non-pharmacy students alike will find relatable and take an interest in.



@ Karen Lin

Graduate Copy Editor [Content-Focused]
The Rho Chi Post allows me to have an appreciation for interactive pharmacy learning as well as the art of writing. With each newsletter, my goal is to provide current information to readers who come across the Post. As an editor, I hope to make the newsletter one-of-a-kind and motivate and influence writers to explore science with their creative talents.



@ Matthew Kahn 6th Year, STJ; Graphics Editor

I've always loved graphic design, so I was thrilled at the opportunity to be a part of the Rho Chi Post team and contribute to future publications. I'm excited to explore new ways to make the Post even better, and also to be continuously exposed to new ideas in the pharmaceutical field.



<u>@ Nicollette Pacheco, PharmD</u>
Graduate Editor [Graphics-Focused]

As a member of the Rho Chi Post team, I have a vast appreciation of what it means to be a pharmacist in the rapidly evolving world of healthcare. As a graduate editor, I will continue to bring my passion for science and creativity to the Rho Chi Post.



@ Mei Fung

Graduate Copy Editor [Content-Focused] It's always interesting to see how the healthcare field evolves and all the advancements in pharmacy come to fruition. I joined the Rho Chi Post because it brings together a variety of these topics with distinguishing perspectives from our peers in pharmacy practice. I am ecstatic to join the team in continuing Rho Chi Post's endeavors in promoting the profession.



@ Davidta Brown, PharmD

My two great loves are innovative science and quality writing; the Rho Chi Post is an insightful combination of both. As an editor, I look forward to bringing relevant information and fresh perspectives to the student and faculty of St. John's University, as well as to making the Rho Chi Post a newsletter that offers something new to every reader.

Graduate Copy Editor [Content-Focused]



RHO CHI POST: TEAM MEMBERS



② Jonathan Mercado
6th Year, STJ; Finance and Outreach
Manager, Staff Writer

The Rho Chi Post breaks barriers for students that want a glimpse of their future and acts as an inspiration to work harder to achieve their goals. It is an embodiment of the motivation and intelligence that drives pharmacy students to be the most informed and capable professionals they can be. I am glad to a part of that mission and to channel my passion and interests through this newsletter.



@ Gabrielle Flavoni Graduate Staff Editor

Writing has always been an enormous passion of mine, and I'm blessed to join such an amazing team that encourages me to explore it. As a new Staff Writer for the Post, my goal is to aid others in staying up-to-date about the pharmacy world, while also utilizing a creative outlet to make an impact on those around me.



© Kathleen Horan 5th Year, STJ; Staff Editor

I have always loved writing, and I hope to couple my passion for writing with my interest in clinical pharmacy by becoming a writer and staff editor for the Rho Chi Post. As a writer and staff editor for the Rho Chi Post, I hope to write and edit informative and interesting articles that relate to the world of healthcare and pharmacy. I am so excited to join this team of student pharmacists and writers.



@ Alex Chu 6th Year, STJ; Staff Writer

With a constantly evolving healthcare field, it is imperative that we keep ourselves up to date with the latest news. This is what led me to join the Rho Chi Post, which constantly comes out with interesting and informative topics. It is an honor to write for the Rho Chi Post, and I wish to contribute innovative and intriguing articles to this newsletter.



@ Anna Chen
5th Year, STJ; Staff Writer

The Rho Chi Post is a fantastic opportunity for future health professionals to keep up with the vastly changing healthcare world. As the pharmaceutical landscape keeps changing, it is crucial that we join the conversation in voicing our opinions and clinical input into current healthcare debates. Healthcare is limitless in possibilities to better patient centered care and I aim to deliver content that is both invigorating and inspiring to both students and practicing professionals.



@ Karen Chen 6th Year, STJ; Staff Writer

I am honored to be writing for the Rho Chi Post. The Rho Chi Post allows me to creatively express my opinions on various topics in pharmacy as well as communicate and share new information about our ever evolving profession. This platform connects students, allows us to educate each other and helps us all stay up to date. I have always loved writing and hope that by being a part of the Rho Chi Post team, I can continue to research and write articles that are relevant and inspiring.

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RHO CHI POST: TEAM MEMBERS



@ Joseph Eskandrous 6th Year, STJ; Staff Writer

In the world of pharmacy, knowledge becomes outdated within hours of when you learned it. The miracle drug that used to be considered the standard of therapy is replaced by the latest and greatest. My role as a Staff Writer for the Rho Chi Post is to bring these changes to the forefront in order to empower future pharmacists and to improve the quality of patient care.



@ Thanesha Graham 6th Year, STJ; Staff Writer

As a writer for the Rho Chi Post, I have the unique opportunity to convey my knowledge, discoveries and interests to the general public. I will be able to enlighten individuals about issues that will not only impact them, but also their families, and communities. I look forward to supplying this newsletter with valuable and relevant information about the evolving field of pharmacy.



@ Michael Lim 5th Year, STJ; Staff Writer

In the spirit of advancing the pharmacy profession, the Rho Chi Post never ceases to produce valuable content showcasing the innovation and diversity of the career. As a Staff Writer for the Post, I am honored to have the opportunity to use writing to both educate and push readers to strive for excellence in their professional pursuits. I hope that my contributions to the newsletter are able to foster growth in an informative and accessible manner.



@ Shivani Shah 4th Year, STJ; Staff Writer

As students in an dynamic healthcare profession, it is important to keep up to date with literature and publications regarding the pharmacy profession. Rho Chi Post serves as a great outlet for students to catch up on pharmaceutical innovations and progress going on in the career. Being a staff writer motivates me to constantly research and share new, exciting advancements with fellow students. I look forward to reading articles in the Post and hope to spark others curiosity and interest!



@ Shireen Farzadeh 6th Year, STJ; Staff Writer

I am excited to join Rho Chi Post and contribute to the award-winning newsletter for students to share ideas, opinions, and pertinent topics! Writing for the Rho Chi Post is an opportunity to express our appreciation for pharmacy and educate ourselves and our peers. I hope to inspire students to discover their passion for writing and to stay up to date on our evolving profession!



@ Yao Jiang 6th Year, STJ; Staff Writer

Writing for the Rho Chi Post allows me to bridge the gap between class and the real world. It gives me a reason to focus on topics that are relevant to me as a practicing student pharmacist and explore new medications, laws, and ventures in our evolving profession. This process of researching, teaching oneself, and finally, teaching others is what we will ultimately do as future pharmacists. I am honored for this opportunity to be further exposed to what pharmacy has to offer all while giving back to the community that has taught me so much.



@ Katharine Russo 4th Year, STJ; Staff Writer

In my first two years as a pharmacy student, I was exposed to numerous opportunities to write medical based articles for classes and clubs. This is what first sparked my interest in health care literature and I look forward to being a Staff Writer for the Rho Chi Post in hopes of being able to share my passion and enthusiasm in writing health-care related publications.



@ Yeonah Suk 5th Year, STJ; Staff Writer

As a student interested in various branches of healthcare, the Rho Chi Post has provided me the opportunity to be part of an organization that discusses this field in a broad scope. As modern society continues to amalgamate and globalize multiple disciplines, it is important that we harmonize these elements and keep ourselves updated on their interactions. I joined the Rho Chi Post to both learn and contribute to a team that has immense diversity and my goal is to continue exploring innovative ideas through writing.



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MISSION

The Rho Chi Post is an award-winning, monthly, electronic, student-operated, faculty-approved publication that aims to promote the pharmacy profession through creativity and effective communication. Our publication is a profound platform for integrating ideas, opinions, and innovations from students, faculty, and administrators.

VISION

The Rho Chi Post aims to become the most exciting and creative student-operated newsletter within St. John's University
College of Pharmacy and Health Sciences

Our newsletter continues to be known for its relatable and useful content

Our editorial team continues to be known for its excellence and professionalism

The Rho Chi Post essentially sets the stage for the future of student-operated publications in pharmacy

VALUES

Opportunity

Teamwork

Respect

Excellence

GOALS

To provide the highest quality student-operated newsletter with accurate information

To maintain a healthy, respectful, challenging, and rewarding environment for student editors

To cultivate sound relationships with other organizations and individuals who are like-minded and involved in like pursuits

To have a strong, positive impact on fellow students, faculty, and administrators

To contribute ideas and innovations to the Pharmacy profession

St. JOHN'S UNIVERSITY College of Pharmacy and Health Sciences

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