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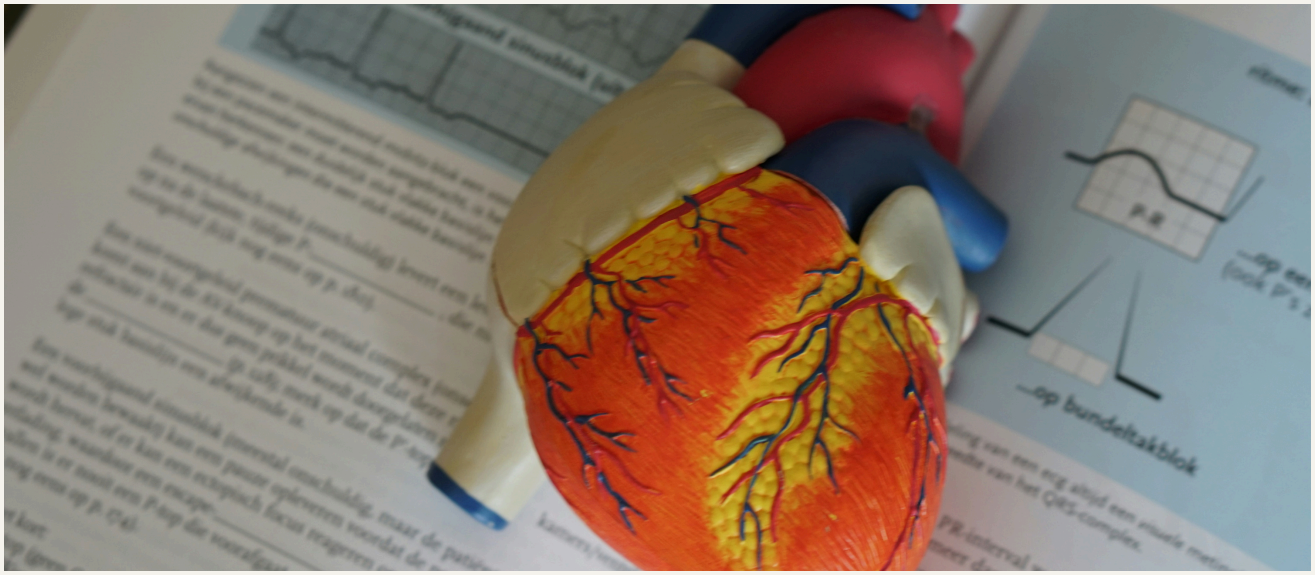
RHO PxCHI post

St. John's University College of Pharmacy & Health Sciences



THIS ISSUE'S FEATURED ARTICLE:

FDA APPROVAL OF LANDIOLOL (RAPIBLYK) FOR SUPRAVENTRICULAR TACHYCARDIA

About the Rho Chi Post

The Rho Chi Post was developed by the St. John's University Rho Chi Beta Delta Chapter in October 2011 as an electronic, student-operated newsletter publication with a team of three student editors and one Editor-in-Chief. Today, our newsletter boasts 12 volumes, over 90 published issues, and more than 600 unique articles to date with an editorial team of first to sixth year student pharmacists, as well as returning PharmD graduates.

The newsletter is distributed by St. John's University College of Pharmacy and Health Sciences to more than 1,500 students and faculty members. Our monthly electronic mailing list continues to extend readership far beyond campus.

Mission

The Rho Chi Post is an award-winning, 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 and faculty.

Vision

The Rho Chi Post aims to become the most creative and informative 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 sets the stage for the development of individual writing skills, collaborative team work, and leadership.

Contact Information

The Rho Chi Post
St. John's University College of Pharmacy and Health Sciences
8000 Utopia Parkway, Jamaica, NY 11439

Website: http://rhochistj.org/RhoChiPost
Facebook: https://www.facebook.com/RhoChiPost
Instagram: @sjurhochipost
Email: rhochipost@gmail.com

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FROM THE EDITOR

A Message from the Editors-in-Chief, Anjali and Sharupa

It is with great honor that we introduce the Rho Chi Post's second issue of our 14th volume. We thank you for taking time out of your day to read over our newsletter. It is our intention that this issue teaches you something new, whether it be clinical, pharmacy news, or advice from our Rho Chi Talks or 6th Year Perspective. We would like to take a moment to thank our Editorial Team, Executive Board, advisors, and readers as this newsletter would not be possible without them. With this, we leave you to the rest of the issue, and wish the student body a holiday season!

Frequently Asked Questions

Who can write for the Rho Chi Post Newsletter?

Anyone can write for the Rho Chi Post! Our newsletter is not exclusive to St. John's University students. The Rho Chi Post accepts articles on a daily basis!

How do I submit an article?

You can submit an article by creating an account on our website! Go to www.rhochistj.org/RhoChiPost, click the login button from the upper menu bar, and click register. Upon making an account, you will be able to submit articles to our author inbox.

Who determines article topics?

You are free to choose an article topic of your choice. Take a look at our Author Guidelines for ideas.

What happens after I upload my draft article on the Rho Chi Post website?

Our Editor-In-Chief (EIC) will either edit the article directly or assign the article to a staff editor. If any revisions are needed, the editor will upload the article back to the portal, notifying the author via email. The author can then download the edited article, make the suggested revisions, and reupload the draft back to the portal. Additional drafts will be revaluated by our copy editors and then EIC, repeating this process. Once no further revisions are needed, the article is accepted for publication.

Is there a deadline for authors to send revisions?

There is no deadline to submit revisions for an article. However, the quicker revisions are made, the quicker the article can move through our editing process. Once an article is accepted for publication, it will be moved into a queue to be placed into an upcoming issue.

Oxbryta's Journey: From Accelerated FDA Approval to Market Withdrawal

By: Amita Singh, Pharm D Candidate c/o 2025

Voxelotor, marketed under the brand name Oxbryta, was approved by the US. Food and Drug administration (FDA) under the accelerated approval pathway in 2019 for the treatment of sickle cell anemia in adults and pediatric patients 12 years of age or older. In 2021, FDA granted accelerated approval of Oxbryta for the treatment of sickle cell disease in patients 4 to 11 years of age. Recently, Pfizer Inc., the manufacturer of Oxbryta, announced on September 25th, 2024, that it is voluntarily withdrawing the drug from the market and discontinuing all ongoing active clinical trials and terminating expanded access programs worldwide.

Sickle cell disease (SCD) is a genetic disorder characterized by the production of hemoglobin (Hb) molecules that cause red blood cells to take on a crescent or sickle shape. It is caused by a mutation in the HBB gene, which encodes the beta-globin subunit of Hb, the protein that carries oxygen in red blood cells. A single nucleotide change replaces valine with glutamic acid, resulting in the formation of hemoglobin S (HbS).[1] Stressful environments such as dehydration, acidosis, or an infection triggers the sickling process or polymerization of HbS. The resulting rigid, sticky, sickle shaped red blood cells have low affinity for oxygen and adhere to vascular endothelium, triggering inflammation. This leads to blockage of small blood vessels, causing ischemia and reperfusion injury. Common consequences of these events include painful vaso-occlusive crises (VOC) as well as tissue infarctions that can be portrayed as stroke or acute chest syndrome.[1] VOCs are the most common complication of SCD and one of the more frequent reasons for emergency room visits in this population.[2]

Oxbryta binds reversibly to Hb, stabilizing the oxygenated Hb state and preventing HbS polymerization by increasing Hb's affinity for oxygen.[2] On November 25, 2019, the FDA granted accelerated approval to Oxbryta based on the results from the HOPE trial (NCT 03036813), a phase 3, randomized, double-blind, placebo-controlled trial. The trial enrolled a total of 274 patients from 12 to 65 years of age with confirmed SCD and one vaso-occlusive episode in the past 12 months. Patients were randomized to receive Oxbryta 1500 mg, 900 mg, or placebo.[3] The primary efficacy outcome measure was Hb[SA1] response rate defined as an Hb increase of >1 g/dL from baseline to week 24.[1] The response rate for Oxbryta was 51.1% (46/90) in the 1500 mg group, 33 % (30/92) in the 900 mg group, compared to 6.5% (6/92) in the placebo group ($p<0.0001$). The most common adverse events with ≥10% incidence were headaches, diarrhea, nausea, arthralgia, rash, abdominal pain, and pyrexia. Annualized incidence rate of vaso-occlusive crisis or the number of crises per person per year on a 95% confidence interval was 2.77 in the 1500 mg group, 2.76 in the 900 mg group, and 3.19 in the placebo group.[3] Following the results, the recommended dose was set at 1500 mg orally once daily with or without food.

As aforementioned, the FDA granted Oxbrytas, accelerated approval due to the limited treatment options available for people with sickle cell disease and the urgent need for new therapies. At the time of approval, there were no warnings of potentially life-threatening side effects. However, Pfizer was required to conduct additional clinical trials post-approval to further assess the drug's safety profile. During post-marketing trials, it was revealed that Oxbryta posed several serious health threats, including an increased risk of vaso-occlusive crisis, organ damage, and death. Additionally, according to the FDA Adverse Events Reporting System (FAERS), sickle cell anemia crisis accounted for 10,839 cases out of a total of 21,498 reported cases, representing 50.4%.[1]

In July 2024, the European Medicines Agency (EMA), the EU equivalent of the U.S. Food and Drug Administration (FDA), launched a review of Oxbryta following concerns raised in two post-marketing clinical trials. Study GBT440-032 evaluated the impact of Oxbryta on transcranial doppler ultrasound measurements of cerebral arterial blood flow in children aged 2 to 15 years with sickle cell disease who are at high risk of stroke.[4,5] The study enrolled 236 participants from Egypt, Ghana, Kenya, Nigeria, Oman, Saudi Arabia, the United States, and the United Kingdom. Among the participants, there were 8 deaths in those receiving Oxbryta compared to 2 deaths in the placebo group.[1] Study GBT440-042 investigated the effects of Oxbryta on leg ulcers in 88 patients aged 12 years and older. Participants were recruited from Brazil, Kenya, and Nigeria. Eight deaths have been reported during the open-label phase of this study.[5]

Review of all clinical data indicate that the overall benefits of Oxbryta no longer outweigh the risks for the approved sickle cell patient population. The data revealed a concerning imbalance in the occurrence of vaso-occlusive crises and fatal events. Following the announcement, healthcare professionals were urged to cease prescribing Oxbryta, while patients and caregivers were encouraged to consult with their healthcare providers to discuss discontinuing Oxbryta and transitioning to alternative treatment options.

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Clearing the Air: FDA Proposes to Sniff Out Phenylephrine from OTC Shelves

By: Christine Mauceri, PharmD Candidate c/o 2025

On November 7th, 2024, the Food and Drug Administration (FDA) announced its proposal to remove oral phenylephrine from over-the-counter (OTC) drug products. Phenylephrine has been widely used, both orally and intranasally, for the temporary relief of nasal decongestion due to the common cold or allergies. It is marketed alone as Sudafed PE and in combination with other ingredients as Tylenol, Mucinex, and Benadryl. While this is not a final order, companies may continue to market products taken orally that contain phenylephrine as a nasal decongestant, and pharmacies may individually choose to remove some products that contain oral phenylephrine as an active ingredient. This proposal does not apply to the nasal spray form.[1]

The FDA has a responsibility to ensure the safeness and effectiveness of the drug products on the market. This proposal is based on the recent data concerning the effectiveness of oral phenylephrine, not its safety. In September 2023, the FDA held a Non-Prescription Drug Advisory Committee (NDAC) meeting to discuss the status of oral phenylephrine as a nasal decongestant. Based on recent scientific data, the committee unanimously concluded that the recommended dose of phenylephrine is ineffective as a nasal decongestant; however, the FDA makes the final decision to act on this conclusion.[2]

Now that the FDA has proposed to remove oral phenylephrine, the public is able to comment on this through the Federal Register until May 7th, 2025, upon when the FDA will review those comments before making a final decision. If the final order is to be made, then the FDA would work closely with drug manufacturers to adjust their formulations accordingly to comply with the preferred management of cold and allergy symptoms.[1]

Phenylephrine was first approved by the FDA for OTC use in 1976 when it was determined to be safe and suggested to be effective for nasal decongestion. It acts as a selective alpha-1 adrenergic receptor agonist causing temporary constriction of blood vessels in the nasal passage. In 2006, its popularity as a main ingredient in many OTC products soared when an FDA law required another oral decongestant, pseudoephedrine, be moved behind pharmacy counters since it can illegally be made into methamphetamine. Compared to phenylephrine, pseudoephedrine is a non-selective, alpha- and beta-agonist, and is more lipophilic which allows it to easily cross into the central nervous system.[3]

At the time of phenylephrine's approval, seven of fourteen studies that were evaluated showed positive efficacy. Despite the original panel ultimately noting the data as not strong evidence for efficacy, they recommended oral phenylephrine be marketed due to a lack of safety concern.[4] However, the NDAC notes a few issues with the original studies. Most used a congestion severity scale that measured airflow and air pressure in the nasal passage.[4]

Using this scale, phenylephrine is effective as a decongestant. Presently, the FDA switched to a scale that uses clinical symptom scores based on a patient's answers to a questionnaire to measure symptom severity, a scale on which phenylephrine is ineffective compared to placebo.[4] Furthermore, the majority of the studies evaluated patients with the common cold, a condition that is highly variable compared to allergic rhinitis which would yield more reliable results. In addition, at a 2007 NDAC meeting, the available clinical pharmacology data was presented showing less than 1% bioavailability of oral phenylephrine,[4] which is not adequate to provide efficacy.

The FDA's proposal to remove oral phenylephrine from OTC shelves is in line with the evolving recommendations to assess and manage the common cold and allergies. If a final order were to be made, some positive outcomes are avoiding unnecessary costs, eliminating a delay in care, and avoiding potential adverse reactions that[4] are associated with taking combination products. This discussion raises opportunities for pharmacists to educate patients in their community on this possible change as well as alternatives to oral phenylephrine to treat their symptoms. These alternatives include oral pseudoephedrine or nasal sprays that contain phenylephrine and other decongestants, corticosteroids, or antihistamines. Overall, this is a significant, ongoing conversation on the management of the common cold and allergic rhinitis.

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What is the best price to use for pharmacoeconomic purposes?

By: Farzana Alam, PharmD Candidate c/o 2025, Anthony Autera, PharmD Candidate c/o 2025, Maha Saad, PharmD

Background

Drug pricing metrics are crucial in pharmacoeconomic analyses as they influence cost-effectiveness and budget impact studies. Selection of the most appropriate metric depends on the context of the analysis, the drug distribution channel, and payer perspective. The primary pricing metrics include Average Wholesale Price (AWP), Wholesale Acquisition Cost (WAC), Actual Acquistion Cost (AAC), the National Average Drug Acquisition Cost (NADAC), Average Sales Price (ASP), Average Manufacturer Price (AMP), and the Veterans Affairs Federal Supply Schedule (VAFSS). Below, we analyze the relevance and limitations of each.[1]

Definitions and Relevance of Pricing Metrics[2,3]

Average Wholesale Price (AWP)

- Definition: AWP is a published benchmark price often referred to as the "sticker price" of a drug. It is not legally mandated and is typically set by the manufacturer.
- Usage Context: Historically used in older pharmacoeconomic studies as a reference price.[4]
- Where to find: Redbook on Micromedex.
- Strengths: Easily accessible and consistent across regions.
- Limitations: Frequently criticized for being an inflated estimate that does not reflect actual transaction prices. Studies have shown price discrepancies of 20-25% higher than the net price paid by purchasers.
- Recommendation: AWP, though historically widely used, has significant limitations due to its inflated nature and lack of reflection of actual transaction prices, making it less suitable for modern pharmacoeconomic evaluations.

Wholesale Acquisition Cost (WAC)[1]

- Definition: WAC represents the manufacturer's list price to wholesalers, excluding discounts or rebates.
- Usage Context: Often serves as a baseline for pricing in budget impact analyses or when assessing manufacturer pricing strategies.
- Where to find: Redbook on Micromedex.[4]
- Strengths: Readily available and closer to actual purchase prices compared to AWP.
- Limitations: Does not account for negotiated discounts, rebates, or pharmacy benefit manager (PBM) fees, leading to overestimation of actual payer costs.
- Recommendation: WAC is useful for approximating costs when no better alternatives are available. However, WAC still fails to account for key factors like rebates, discounts, and PBM fees, thus overestimating actual payer costs.

Actual Acquisition Cost (AAC)[5]

- Definition: AAC represents the actual price that pharmacies or healthcare providers pay to acquire a drug, including any discounts or rebates from the manufacturer or wholesaler. It is a more accurate reflection of the cost to the provider compared to AWP.

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- Usage Context: AAC is primarily used in the context of drug reimbursement by public payers, particularly Medicaid, but can also be used by some commercial insurers. It serves as a basis for determining reimbursement rates for outpatient prescription drugs. Medicaid, in particular, relies on AAC for reimbursing pharmacies for drugs, and states have the flexibility to determine how AAC is calculated and what sources of data are used (e.g., state surveys or average market prices).
- Where to find: Varies for each institution, but an average can be found with the NADAC.
- Strengths: AAC provides a more accurate reflection of the actual cost to pharmacies since it accounts for negotiated discounts, rebates, and other price reductions that are not included in list prices like AWP.
- Limitation: The determination of AAC can differ by state and pharmacy, making it difficult to have a consistent nationwide benchmark.
- Recommendations: AAC offers a more accurate reflection of the actual price paid by pharmacies, incorporating rebates and discounts. However, its use can vary across states and pharmacies, introducing inconsistencies.

National Average Drug Acquisition Cost (NADAC)[6]

- Definition: Based on a monthly national survey which represents the invoice price retail pharmacies pay for medications.
- Usage Context: NADAC is utilized to assess and compare the actual acquisition costs of pharmaceuticals for retail pharmacies, serving as a benchmark for pricing and reimbursement decisions.[7]
- Where to find: Medicaid Website
- Strengths: Provides a weighted estimate of what pharmacies are actually paying to acquire drugs. Gives an idea of the price patients will pay at retail pharmacies.
- Limitations: Not every discount is always reported. Doesn't account for rebates manufacturers may provide to payers. It's an estimate of a transaction not necessarily of interest.
- Recommendation: NADAC, derived from national surveys, offers a useful benchmark for retail pharmacy acquisition costs but may miss certain discounts and rebates, making it a partial estimate rather than a comprehensive price reference.[1]

Average Sales Price (ASP)

- Definition: ASP is the weighted average of all federal sales prices to U.S. purchasers, net of discounts, rebates, and other price concessions.
- Usage Context: Commonly used for Medicare Part B drugs.
- Where to find[8]: Center for Medicaid Services website
- Strengths: Reflects real-world pricing, incorporating rebates and discounts, making it more accurate than WAC or AWP. It is particularly valuable in cost-effectiveness analyses involving Medicare.
- Limitations: ASP is limited to Medicare Part B drugs and may not reflect pricing for drugs distributed outside this setting.
- Recommendation: ASP is highly useful in Medicare Part B drug evaluations, as it reflects real-world pricing by incorporating manufacturer rebates and discounts. However, it is limited to Medicare Part B drugs and does not cover other distribution settings.

Average Manufacturer Price (AMP)[1]

- Definition: AMP reflects the average price paid by wholesalers to manufacturers for drugs distributed to the retail pharmacies.
- Usage Context: Central to Medicaid rebate calculations and relevant for Medicaid-specific cost analyses.
- Where to find: data.medicaid.gov[9]
- Strengths: Provides a net price metric specific to the retail pharmacy setting and incorporates discounts, making it more accurate than AWP or WAC.
- Limitations: Limited to Medicaid and retail pharmacy settings, and not representative of inpatient or specialty drug markets.
- Recommendation: AMP is useful for Medicaid-specific pharmacoeconomic evaluations but is less applicable in broader contexts.

Veterans Affairs Federal Supply Schedule (VAFSS)[10]

- Definition: Pricing system used by the U.S. Department of Veterans Affairs (VA) to negotiate prices for pharmaceuticals with drug manufacturers on behalf of all federal direct payers.
- Usage Context: Primarily used in the U.S. Department of Veterans Affairs (VA) healthcare system. It serves as a pricing guide for all federal health agencies, providing the most favorable drug prices available for veterans and federal enrollees.
- Where to find: VA's National Acquisition Center (NAC)[10]
- Strengths: The prices negotiated through VAFSS are publicly available and can be accessed by anyone. This transparency ensures accountability and helps stakeholders understand the pricing mechanisms in place, unlike other private sector pricing systems that may lack public visibility
- Limitations: The VAFSS price is not available to all types of healthcare payers, as it is specific to federal agencies.
- Recommendation: Its transparent, low prices make it a reliable benchmark for the lowest expected transaction costs. For broader applicability combine VAFSS with other pricing metrics, such as NADAC, to account for a wider range of drug pricing scenarios.

The landscape of drug pricing is complex, with various pricing metrics used to determine reimbursement rates and assess the true cost of pharmaceuticals. The measurement of drug costs depends primarily on the analyst's perspective and can vary significantly due to complex and nontransparent pricing mechanisms across supply and demand chains. For example, an analysis from a hospital perspective would most likely use the AAC if it's available directly from their institution. From an insurance company perspective WAC would be utilized. From a payer perspective, drug prices should reflect the net amounts paid by the payer, including all rebates, copays, and other adjustments. From a government perspective, drug costs should exclude sales taxes, value-added taxes (VAT), or other taxes that serve as direct revenue offsets. For an improved method for drug cost estimation in cost-effectiveness analyses, the use of NADAC and VAFSS to represent the upper and lower bounds of drug prices, respectively is recommended. This approach provides more accurate and transparent cost estimates compared to the traditional reliance on WAC and AWP, which tends to overstate drug prices. Calculating the base case as the midpoint between NADAC and VAFSS yields costs that better reflect actual transaction

prices, offering greater consistency and accuracy for health economic evaluations. These metrics help stakeholders, including public payers, insurers, and healthcare providers, understand the true costs of pharmaceuticals, thus improving pricing transparency and efficiency in healthcare delivery.[11,12]

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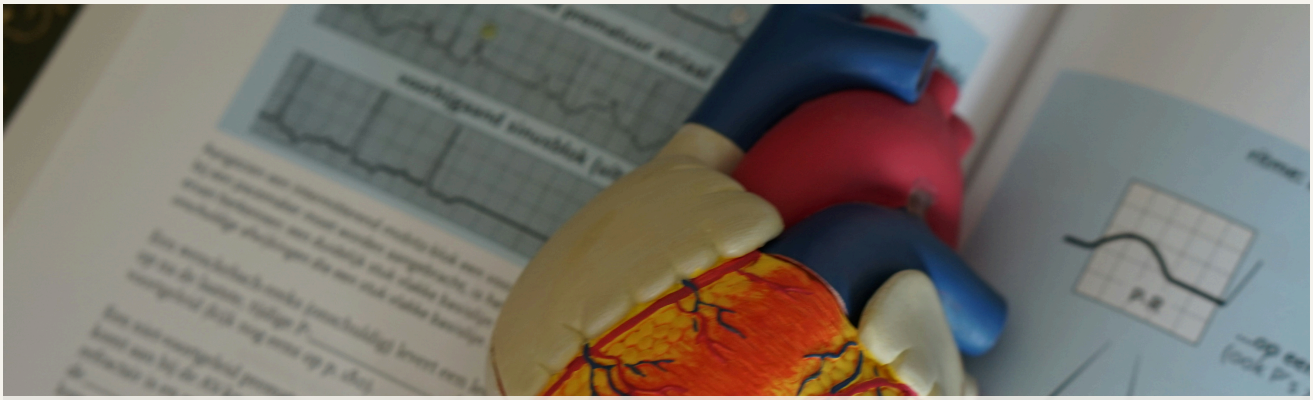

FDA Approval of Landiolol (Rapiblyk) for Supraventricular Tachycardia

By: Nivaj Haque; PharmD Candidate c/o 2027

Recent advancements in cardiology have revolutionized the management of arrhythmias, offering new hope for patients with conditions like supraventricular tachycardia (SVT). Supraventricular tachycardia (SVT) significantly affects patients' lives, leading to approximately 50,000 emergency department visits annually in the United States.[1] This statistic underscores the urgency of developing effective management strategies to prevent disruptions to patients' daily activities, reduce the emotional and physical toll of recurring episodes, and improve their overall quality of life. These episodes, while often benign, can cause significant symptoms such as palpitations, dizziness, chest discomfort, and, in severe cases, hemodynamic instability. For patients with recurrent or severe SVT, these symptoms can interfere with daily life and pose a risk of complications, emphasizing the need for safe and effective treatment options tailored to individual patient needs.[2]

Standard guidelines from leading organizations such as the American Heart Association (AHA) and the European Society of Cardiology (ESC) emphasize the use of beta-blockers, calcium channel blockers, and catheter ablation for managing SVT.[3] Beta-blockers are often the first-line pharmacological therapy due to their ability to reduce heart rate and suppress arrhythmias. However, traditional beta-blockers like propranolol and metoprolol have a broad mechanism of action, affecting not only the heart but also other systems, leading to side effects such as bronchospasm, fatigue, and hypotension. This systemic impact limits their use in certain patient populations, particularly critically ill patients who require precise and rapid control of heart rate with minimal adverse effects.[4]

A recent breakthrough in SVT management is the FDA approval of landiolol hydrochloride (Rapiblyk), a highly cardioselective beta-1 adrenergic blocker developed by AOP Orphan Pharmaceuticals. On November 14, 2024, the FDA approved Rapiblyk for the treatment of perioperative and ICU-related SVT, marking a significant milestone for patients requiring precision therapy.[5] This approval adds a

crucial option to the arsenal of treatments available for SVT, addressing limitations seen with conventional therapies.

Landiolol is distinguished by its ultra-short half-life, high beta-1 selectivity, and rapid onset of action. These features make it particularly suitable for use in critically ill patients who may require minute-to-minute adjustments in therapy to manage their cardiac conditions effectively.[6] Its high cardioselectivity minimizes the risk of bronchospasm and other systemic effects associated with non-selective beta-blockers, providing a safer profile for patients with coexisting conditions such as asthma or chronic obstructive pulmonary disease (COPD). Additionally, landiolol's ultra-short half-life (approximately 4 minutes) allows for quick cessation of its effects if adverse reactions occur, providing clinicians with greater control over therapy.

The drug is administered as an intravenous infusion, with a recommended initial dose of 1 µg/kg/min, titrated based on the patient's heart rate and hemodynamic response.[7] Adverse events associated with landiolol are rare but may include hypotension, bradycardia, and, in isolated cases, cardiac arrest. These potential risks highlight the importance of close monitoring during administration, particularly in settings such as the ICU or operating room where patients may have compromised cardiovascular status.

The pivotal approval of Rapiblyk was based on data from a multicenter, double-blind, randomized trial evaluating the safety and efficacy of landiolol in 200 patients with perioperative or ICU-related SVT. The study reported an 85% success rate in heart rate control within 20 minutes of administration, compared to 45% in the placebo group ($p < 0.001$).[8] Patients receiving landiolol also demonstrated faster resolution of arrhythmias, fewer episodes of hemodynamic instability, and a reduction in the need for secondary interventions, such as electrical cardioversion.

An exploratory analysis of the trial further highlighted the tolerability of landiolol, particularly in patients with compromised cardiac function.[9] Patients with reduced ejection fraction (LVEF <40%) experienced no significant adverse effects, underscoring its safety in high-risk populations. This finding is particularly noteworthy as traditional beta-blockers are often contraindicated or used cautiously in patients with heart failure or reduced cardiac output due to their potential to worsen hemodynamics.

The approval of Rapiblyk represents a valuable tool for managing SVT, particularly in perioperative and critical care settings. Its unique pharmacokinetic and pharmacodynamic properties enable targeted heart rate control with minimal side effects, addressing a critical gap in current therapeutic options. Furthermore, its rapid onset and offset of action make it an ideal choice for managing acute arrhythmias in dynamic clinical situations, such as during surgery or in unstable ICU patients.

As landiolol becomes integrated into clinical practice, further real-world studies will elucidate its long-term benefits and optimal use across various patient populations. These studies may also provide insights into its potential applications in other cardiac arrhythmias or conditions requiring precise heart rate management. The approval of Rapiblyk not only marks a step forward in arrhythmia management but also reflects a

broader commitment within the field of cardiology to develop therapies tailored to the nuanced needs of diverse patient populations.

The addition of landiolol to the treatment landscape underscores the ongoing evolution of precision medicine in cardiology, offering hope to patients and clinicians alike. Its introduction as a highly targeted beta-1 blocker reaffirms the importance of innovation in addressing unmet clinical needs and improving patient outcomes in complex cardiovascular conditions.

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Meet the 2024-2025 Team Members

Editorial Team & Production

Anjali Thykattil
Editor-in-Chief

The Rho Chi Post serves as both a creative and educational platform that allows students and faculty to collaborate in sharing their knowledge with the pharmacy community. Unlike other pharmacy organizations at St. John's, it also allows for the unique experience of expanding research and writing skills outside of the classroom setting. As pharmacy students, it is imperative we continue to educate ourselves as the world of healthcare is ever-changing. I am honored to be a part of the Rho Chi Post's Editorial Team and look forward to serving as this year's Editor-in-Chief!

Sharupa Azmal
Editor-in-Chief

The Rho Chi Post serves as a testament to the dedication and intellectual curiosity of the pharmacy community at St. John's University, providing a platform for our students to share knowledge and grow as healthcare professionals. It is my privilege as the Editor in Chief to continue our mission to amplify the voices of our writers and educate our readers regarding current events in healthcare and the dynamic landscape of pharmacy.

John Ortiz
Managing Editor

Rho Chi Post is an opportunity for students to foster their writing and investigative skills concerning the pharmacy practice. Through Rho Chi Post, students are also exposed to novel information and perspectives that are present in the pharmacy community and in our own student body. By honing our understanding of new innovations and developments in pharmacy, we will be better adept at providing accurate information to readers and maintaining the continuous education expected of pharmacists.

MEET THE TEAM

Bao Qi Chen
Senior Content-Focused Copy Editor

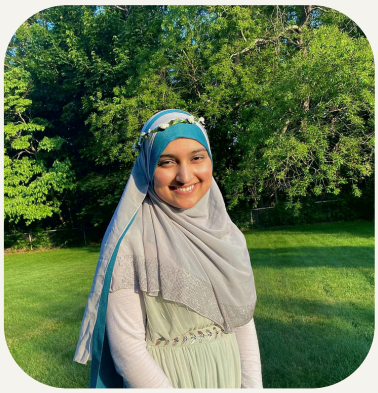
The Rho Chi Post is a bridge between students and the world we will soon enter once we graduate. My ambition is to promote intellect, values, and opportunities that not only allow students to be heard but also impact the pharmacy profession as a whole. I am honored to be a part of the Rho Chi Post's editorial team and work with colleagues who share this ambition. I am excited and grateful for this opportunity, and I look forward to working with everyone!

Warda Basher
Senior Content-Focused Copy Editor

Joining this esteemed team excites me with the opportunity to gain invaluable experience and insights into the latest trends in pharmacy. I am eager to expand my professional network and make significant contributions to the field. As a member of the editorial team, I'll be at the forefront of disseminating the most current news and knowledge, effectively impacting pharmacy professionals worldwide with timely and relevant information.

Ramesa Anan
Content-Focused Copy Editor

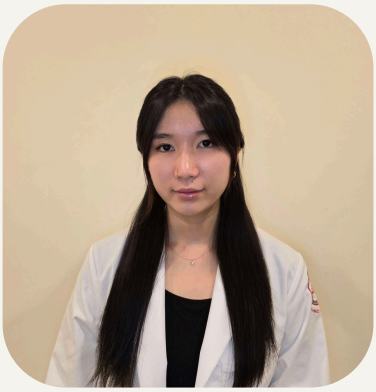
Being in the Rho Chi Post means being part of an environment that allows me to grow both academically and professionally in the field of pharmacy. It means being able to participate with like minded individuals who strive to grow in the field of pharmacy by publishing newsletters with relatable and useful content. I hope to contribute to the continuing success of this student-operated newsletter and aid my team to the best of my ability.



Sameeha Arshad
Content-Focused Copy Editor

To me, being a part of the Rho Chi Post means being part of a community that values knowledge sharing, collaboration, and making a positive impact in the field of pharmacy. It provides me with a platform to contribute meaningful insights, engage with fellow pharmacy students, and inspire others through informative articles and discussions. The opportunity to be a part of this publication is both rewarding and enriching, allowing me to grow professionally and connect with a diverse audience passionate about pharmacy and healthcare.

MEET THE TEAM



Amanda Kim
Content-Focused Copy Editor

Being part of the Rho Chi Post means having the opportunity to help actively contribute to the advancement of the pharmacy profession. As an editor, I will be able to enhance my own writing, be inspired, and share the new innovations/issues within healthcare with my peers. I am very excited to join the team this year!

Laiel Bravo
Content-Focused Copy Editor

The Rho Chi Post has been a segway for pharmacy students to immerse themselves in valuable research work, advancements, and issues within the field. As future pharmacists, it is important to be informed of the latest news and gain insight from the experiences/ideas of others so that we are equipped to further improve the healthcare system. I aspire to use this opportunity to not only enhance my own preparedness but also to help enhance my peers in being ideal professionals who provide exemplary care to patients.

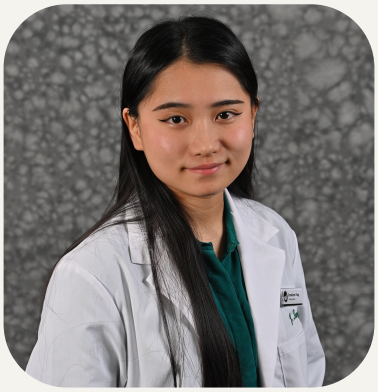
Zainab Masood
Senior Graphics-Focused Copy Editor

Being part of Rho Chi Post, which provides information on discoveries and research to others, is an honor. Taking insight from professionals and peers to educate others is a rather significant effort in the expanding and evolving role of pharmacists. I look forward to collaborating with the team in pushing this effort further while also learning from them.

Nalisha Xu
Graphics-Focused Copy Editor

By becoming a part of the Rho Chi editorial team, I wish to learn more about the pharmacy field and community by gaining insight through our publications. This position will not only allow me to broaden my views on the profession of pharmacy, but also explore topics related to the medical field as a whole. Through Rho Chi's team, I will utilize this experience to grow professionally, develop leadership skills, and be more involved in our community to improve my confidence and professionalism on my journey to becoming a pharmacist.

MEET THE TEAM



Jennalynn Fung
Senior Staff Editor

I am thrilled to have the opportunity to express my creativity, critical thinking, and research skills through contributing to the Rho Chi Post. The mission to promote intellectual discourse and showcase diverse perspectives aligns with my values; I look forward to putting my writing and editing experience to use in each issue, and hope that my involvement can ensure that future cohorts will also have this valuable platform available to them.

Wajiha Uddin
Staff Editor

The Rho Chi Post is a robust community of pharmacy students that are dedicated to fostering growth and sharing newest technologies and innovations in pharmaceutical practice. Being part of the Rho Chi Post means being involved in the supportive network of peers that share a passion for pharmaceutical education, practice, and the drive for contributing to the advancement of pharmaceutical knowledge.

Anya Geiling
Staff Editor

Hello! My name is Anya, and I am very grateful to be a part of Rho Chi Post. As a rising Sophomore studying Nursing, I have a passion for understanding and sharing research about the medical field. I am ecstatic to be able to utilize my editing skills to assist with medical-related articles.

Christiana Popovic
Staff Editor

As a member of the Rho Chi Post, I would be part of a professional community that shares insights, advancements, and challenges within the field of pharmacy. The Rho Chi Post not only empowers and educates, but it shapes the future of pharmacy through its engaging and concise writing.

MEET THE TEAM

Christine Mauceri
Senior Staff Writer

Every student deserves a voice, and to me, being a part of the Rho Chi Post allows us to make that voice heard. Whether it's through opinion pieces, talking about personal experiences, or educating on new pharmacy advancements, this newsletter sticks to its mission of promoting the pharmacy profession. As a Staff Writer, I am excited to learn, grow, and make meaningful contributions to the profession!

Nivaj Haque
Staff Writer

Joining the Rho Chi Post will allow me to merge my analytical skills with my passion for public health, within the rapidly evolving field of pharmacy. This role helps keep us at the forefront of pharmacy innovations and enables me to contribute to keeping our pharmacy community well-informed. I'll explore new research and policy changes, aiming to enhance our collective understanding and application of pharmacy practices that positively impact patient care and healthcare delivery. I'm excited about starting this role and engaging in discussions that shape the future of our profession.

Rebecca Sabzanov
Staff Writer

Being part of Rho Chi Post is an exciting opportunity for me to merge my passions for writing and pharmacy in a prestigious organization. I'm enthusiastic to contribute to such a respectful organization and collaborate with other members of the Rho Chi Post to produce meaningful content that will impact others.

Ameena Qadri
Staff Writer

Being a member of the Rho Chi post means a great deal to me because it is the perfect outlet for me to write about pharmacy related topics that interest me the most. I feel that the Rho Chi post will also allow me to develop my writing skills both professionally and creatively. I sincerely appreciate your consideration and I am looking forward to joining the team!

MEET THE TEAM

Michelle Flores
Staff Writer

My name is Michelle Flores and an incoming fourth year pharmacy student. Having the opportunity to be a Staff Writer gives me the chance to educate others about pharmacy news. Pharmacy is a field that is constantly evolving and as future pharmacists, it is our responsibility to continue learning. Maintaining current knowledge benefits not only our patients but also enriches our own expertise. I'm thankful and excited to be a part of Rho Chi Post as a Staff writer this upcoming year!

Amanda Nakhul
Staff Writer

Hello! My name is Amanda Nakhul, I'm a rising sophomore and biomedical sciences major. I'm rather new to St. John's, so being a part of a high-quality collaborative organization such as the Rho Chi Post means the world to me. As a Staff Writer I am able to incorporate my passion for writing with my appreciation for Pharmacy and medicine. The Rho Chi Post provides a foundation for student-operated publications and it is an honor to be included in this journey.

Reyaz Mussaleen
Staff Writer

As a member of the Rho Chi Post, I see this as an opportunity to enhance the pharmacy profession. By highlighting the diverse roles pharmacists play; from ensuring medication safety and efficacy, conducting research, advocating for patient safety, to analyzing healthcare trends like telepharmacy and personalized medicine, and advancements in gene therapy and immunotherapy; I aim to showcase the impact pharmacists have on society's well-being. I intend to offer engaging perspectives on pharmaceutical developments, healthcare policy changes, and the role of pharmacists in regulatory affairs. Through my contributions, I hope to spark curiosity in our readers to explore the underlying reasons and mechanisms behind these processes.

Rand Ayoub
Staff Writer

Being in Rho Chi Post gives us the opportunity to shed light on crucial topics within healthcare to the St. John's Community. By using the skills and information given to us in our academic classes, this organization offers a chance for people to build on those skills and be able utilize them for the better. I look forward to contributing to Rho Chi Post as well as learning from an amazing group of people!

MEET THE TEAM

Ariella Zadrima
Staff Writer

As a pharmacy student and future pharmacist, I believe it is a quintessential duty to educate ourselves on current media regarding the medical field and continuously adapt to the new ideas we may face as we enter the pharmacy profession. With topics from emerging diseases to scientific advances made, it is important to be accustomed to new ideas that pertain to our potential responsibilities as a pharmacist. As a Rho Chi Staff Writer, I hope to discuss matters that will inform not only pharmacy students but the St. John's community as a whole on topics that have to do with general health and scientific developments. With my interest in writing and the pharmacy field, I hope to touch upon subjects passionate to me that can benefit our community and inspire our readers to integrate themselves into the ever-growing profession of pharmacy.

MEET THE TEAM

Social Media & Outreach

Maliha Akter
Engagement & Outreach Manager

In my pursuit of becoming a knowledgeable and skilled pharmacist, I remain committed to staying informed about disease treatment and public-health policy. Being a part of Rho Chi Post provides an excellent platform for continuous education and knowledge-sharing with peers. Engaging with individuals from diverse backgrounds fosters critical viewpoints and discussions, all focused on enhancing patient-centered care. Additionally, the newsletter enables me to nurture my lifelong passion for writing while staying updated on the latest healthcare developments. As I embrace this transformative journey, I am dedicated to adapting, learning, and making a positive impact on patient well-being as a compassionate and competent pharmacist.

Bhojranie Brahmanand
Engagement & Outreach Manager

The Rho Chi Post uses its platform to spread knowledge of groundbreaking discoveries that are changing the standard of care for society. It delivers a creative and innovative scope of the pharmacy world. As a school of pharmacy, it is pivotal to become aware of healthcare matters. In turn, we can strengthen our understanding of the field and become more competent pharmacy practitioners. I am excited to be joining the team this year as a staff writer. I look forward to working alongside like-minded individuals in cultivating writing pieces that will share the importance of this profession.

Celestine Van Sertima
Engagement & Outreach Manager

When applying to the Rho Chi Post, I was initially fascinated by their goals of providing the highest quality of information to the St. John's community through a student operated newsletter that cultivates both student spirit and expansion of knowledge. Through my passion for writing and health care, combined with my experience in graphic designing, I look forward to what I can contribute to the Rho Chi Post.

Paulina Maczko
Engagement & Outreach Manager

As pharmacy students, I believe we have an obligation of staying informed on current healthcare topics, topics that the Rho Chi Post sheds light on. To be part of such a team is an honor, as students are granted the opportunity of a creative outlet, whether that is by writing the articles or organizing the newsletter. As a copy editor, I look forward to seeing first-hand how students voice their opinions, thoughts, and academic learnings. I'm grateful to be part of a team that allows students to understand what they are capable of, and simultaneously advance their writing, comprehension, and communication skills.

MEET THE TEAM

Advisors

Dr. Ketan Patel
MPharm, PhD

It is an honor to serve as a faculty advisor of Beta Delta Chapter of a 100-year-old prestigious society of pharmaceutical professionals – The Rho Chi Society. With great enthusiasm, I am committed to assist the Rho Chi member's endeavors in: (1) disseminating the latest information/technology in healthcare system; (2) promoting pharmaceutical field & career propulsive networking of current students, alumni, and faculties; and (3) facilitating the scholastic activities and recognizing the scholars.

Dr. Mohammad Rattu
PharmD, BCOP, BCPS, BCGP

I am thankful to have been the 2012 editor-in-chief of the Rho ChiPost newsletter, as well as on the 2019 alumni honor roll of the national Rho Chi organization. This is one of the most successful longitudinal projects at my alma mater, as evidenced by its decade-long persistence and teams of highly-motivated students. I remain available for professional support and assistance with the new year's initiatives.

The Rho Chi Society

Executive Board

Esther Lee
President

Rho Chi Society is an academic honor society comprised of only the brightest in pharmacy that embodies its core values of intellectual achievement, critical inquiry, ethical standards, collaboration, and fellowship. Through various opportunities that Rho Chi, and other pharmacy organizations alike, have provided us, the members of Rho Chi are thankful for the guidance of the pharmacy professionals who preceded us and feel a profound sense of responsibility to extend the same support and mentorship to future generations. Driven by the same commitment to academic excellence and desire to both advance and contribute to the profession, our various academic committees, networking events, and service to community initiatives, have provided an abundance of opportunities for each member to develop their personal and professional skills, explore their interests in pharmacy, form valuable relationships, and mentor the next generation of pharmacists.

Sharupa Azmal
Vice President

The Rho Chi Society cultivates intellectual curiosity and fosters students to be strong leaders and advocates for the pharmacy profession. Over the years, the events and initiatives offered by Rho Chi have played a pivotal role in shaping my sense of professionalism while nurturing a constant desire to reach my full potential. Being a member of Rho Chi signifies a commitment to excellence in every aspect of pharmacy. As Vice President, I hope to inspire both my peers and underclassmen to pursue their best selves, not only academically but personally, while embodying the core values of leadership, integrity, and service that are at the heart of our organization.

Nalisha Xu
Secretary

Rho Chi's society creates an environment for everyone to support each other on their way to professionalism. It connects everyone through a foundation of pharmacy society to sharpen and promote communication, networking, and leadership skills. It is a community that gives everyone a sense of belonging and inclusiveness, as well as providing room for each individual to explore their own specialty and impact on the pharmaceutical field.

Jamila Chowdhury
Treasurer

Rho Chi Pharmacy Honor Society is a prestigious organization that promotes academic excellence, leadership, and community among future leaders in pharmacy. By fostering collaboration and encouraging the pursuit of high scholarly achievements, Rho Chi members are able to learn from each other and maximize their growth as future healthcare professionals. The society provides a platform for aspiring pharmacists to lead with integrity, share knowledge, and make a positive impact on the field of pharmacy and healthcare as a whole.

Executive Board

Isabel Gendin
Historian

Rho Chi Pharmacy Honors Society provides an environment that fosters academic excellence among pharmacy students and also explores the various aspects of the pharmacy field. As the Historian and Development and Outreach Coordinator, I view this organization as a powerful platform to encourage one another to aim for success within our academics, as well as building communication, leadership, and professional growth. Not only are we growing our pharmacy knowledge within the classroom, but Rho Chi allows students to explore the diverse pathways within the field through networking, leadership events, and collaboration. I am very honored to be part of a society that drives both personal and professional growth, and I am dedicated to upholding our mission to uplift future leaders in pharmacy.

Kelly Yeung
Academic Committee Chair

Rho Chi Society is a distinguished academic honor society where students can collaborate and help each other, while following the core values of professionalism, service, and leadership. I am honored to accept my position on the executive board of this academic year and I hope to fulfill my duties so I can contribute to allow Rho Chi to positively impact the pharmacy society and help other fellow pharmacy students.