Winter 2025

THE JOURNAL

New Jersey Association of Osteopathic Physicians & Surgeons

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The Journal is the official magazine of the New Jersey Association of Osteopathic Physicians and Surgeons (NJAOPS). NJAOPS is the sixth largest state affiliate of the American Osteopathic Association. NJAOPS represents the interests of more than 5,000 active osteopathic physicians, residents, interns and medical students. Founded in 1901, NJAOPS is one of the most active medical associations in New Jersey with 12 county societies.

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PRESIDENT'S MESSAGE

Showing Up Matters: A Year of Advocacy, Leadership, and Progress

Jonathan Torres, DO

As we reflect on the past year, one defining word clearly captures the theme of my presidency: advocacy. From Trenton to Washington, our profession has been called upon to engage, educate, and defend the integrity of osteopathic medicine — and I am proud to say that NJAOPS has risen to that challenge at every opportunity.

At the state level, our advocacy efforts have focused on safeguarding patient safety and upholding the highest standards of medical training. I have been deeply involved in opposing Assembly Bill 5273, legislation that would establish licensure pathways for graduate physicians who have completed medical school but not residency training. While well intentioned, this bill raises serious concerns regarding patient welfare and the standards to which the practice of medicine must be held. Our engagement with state legislators has been purposeful, measured, and unwavering.

This year also brought the privilege of representing NJAOPS in discussions with Governor-Elect Mikie Sherrill, ensuring that the voice of osteopathic physicians remains central to shaping New Jersey's healthcare landscape. On the national front, NJAOPS stood shoulder to shoulder with our colleagues at the American Osteopathic Association's advocacy event in Washington, DC, reinforcing the importance of policymakers hearing directly from physicians who care for patients on the front lines every day.

These engagements are not optional; they are essential. Healthcare policy does not simply happen to us — it is shaped by those who show up. Lobbying is not a political act; it is a professional responsibility. When physicians fail to advocate, decisions affecting our patients, our practices, and our profession are left to those who may not fully understand the implications. Our continued involvement ensures that osteopathic principles, patient safety, and evidence-based medicine remain at the forefront of state and federal policymaking.

Healthcare policy does not simply happen to us— it is shaped by those who show up.

Another major priority this year has been investing in the future of our profession: our medical students. NJAOPS is proud to have collaborated closely with dedicated students at the Rowan-Virtua School of Osteopathic Medicine, who took the initiative to establish an NJAOPS Interest Group — laying the groundwork for what will soon become a fully recognized NJAOPS student club. With more than 80 student participants, engagement is at an all-time high. Their enthusiasm, curiosity, and commitment represent the very best of our profession, and we look forward to expanding mentorship and leadership opportunities for them in the year ahead.

This year's most transformative achievement, however, may be the certification of our new Bylaws, now available on our website. These updates modernize the structure of our organization, streamline decision-making, and position NJAOPS for continued stability, agility, and growth. This effort required countless hours of discussion, drafting, and refinement and would not have been possible without the extraordinary dedication of our House of Delegates, Board of Directors, and Executive Committee. Their commitment to strengthening the foundation of this association ensures that NJAOPS remains an effective, member-driven organization for decades to come.

As you read this edition of the Journal, I encourage you to reflect on your own role in the future of osteopathic medicine. Our progress this year underscores a simple truth: when physicians remain engaged in their state associations, our profession thrives. When we step back, others decide our future for us. Your continued participation — whether by attending a meeting, mentoring a student, responding to an advocacy alert, or sharing your expertise — strengthens our community and empowers us to protect both our practices and our patients.

Thank you for the privilege of serving as your President. I am honored to advocate on your behalf and look forward to the work ahead as we continue advancing the mission of NJAOPS together. ■

Jonathan Torres, DO is the current President of NJAOPS.

FROM THE CHIEF EXECUTIVE OFFICER

Strength in Collaboration: Why State Advocacy Matters Now More Than Ever

Tajma Kotoric

As we begin a new year of service and advocacy, I want to reflect on the indispensable role state organizations play in protecting, advancing, and sustaining the practice of osteopathic medicine. While specialty societies and national organizations provide invaluable education, professional development, and community, their work is most effective when aligned with strong advocacy at the state level.

In New Jersey, NJAOPS remains the only organization dedicated exclusively to safeguarding the rights of osteopathic physicians, protecting the integrity of our profession, and ensuring your ability to practice medicine without unnecessary legislative or regulatory barriers. Our focus is clear: to represent DOs before the state legislators, regulators, and policymakers whose decisions directly affect your daily practice.

Our goal has never been to compete with national or specialty societies, but to complement and strengthen them. That philosophy led NJAOPS to proudly join the American Osteopathic Association's OPAC Board of Directors earlier this year. This partnership strengthens coordination between state and national advocacy efforts, ensuring that what happens in Trenton and Washington, D.C. is aligned, strategic, and impactful. True progress occurs when we work together. Collaboration is the only sustainable path forward.

Over the past year, NJAOPS's advocacy efforts have delivered meaningful protections for physicians across the state. Most notably, we continue to lead the fight against legislation that would expand the scope of practice for advanced practice nurses and nurse practitioners, allowing independent practice without essential physician involvement. While this remains an ongoing challenge, the persistence of NJAOPS—supported by engaged members—has been critical in preventing this legislation from advancing.

No specialty society and no national organization can engage at this level in Trenton—only your state association can.

We have not done this work alone. We are deeply grateful for the support of hospital medical staffs and physician organizations whose partnership has allowed NJAOPS to maintain a strong and credible legislative presence. As we look ahead to 2026, which promises to be a critical year for health care policy, this collective effort will be more important than ever. As we launch our membership renewal campaign, I urge every osteopathic physician in New Jersey to recognize the direct connection between membership and advocacy outcomes. Your dues directly support the legislative, regulatory, and professional protections that allow you to practice medicine fully and autonomously. No specialty society and no national organization can engage at this level in Trenton—only your state association can.

NJAOPS exists for one purpose: to protect, support, and elevate New Jersey's osteopathic physicians so you can continue delivering exceptional care to your patients. Together, through collaboration rather than competition, we will remain strong, effective, and united in our mission.

Looking ahead, the challenges facing our profession will require continued engagement and unity. Healthcare policy debates at the state level are increasingly complex, and the voices of practicing physicians must remain front and center in those conversations. NJAOPS will continue to monitor proposed legislation, engage directly with policymakers, and advocate for thoughtful, physician-led solutions.

Thank you for your continued commitment to NJAOPS and to the osteopathic profession. I look forward to working with you in the year ahead and hope to see you at AROC 2026. ■

Tajma Kotoric is the Chief Executive Officer of NJAOPS. Her e-mail address is: tkotoric@njosteo.com.

RESEARCH

How are we treating Premenstrual Dysphoric Disorder in special needs patients?

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Abstract

Premenstrual Dysphoric Disorder (PMDD) is a mood disorder characterized by cyclical symptoms in the luteal phase of the menstrual cycle. Although selective serotonin reuptake inhibitors (SSRIs) are considered first-line therapy, treatment approaches for individuals with developmental disabilities, particularly those with autism spectrum disorder (ASD), remain poorly defined. This study evaluates the variability in treatment regimens for PMDD among patients at the Regional Integrated Special Needs (RISN) Center and explores potential opportunities to improve care standardization.

Introduction

The DSM-5 defines PMDD as a mood disorder occurring during the majority of menstrual cycles, with at least five characteristic symptoms in the final week before menses. At least one of the following core symptoms must be present: affective lability, irritability or anger, depressed mood, or anxiety. Additional symptoms may include decreased interest in activities, difficulty concentrating, lethargy, appetite or sleep changes, feelings of being overwhelmed, and physical symptoms.

Symptoms typically resolve shortly after menstruation begins. Prior research suggests that developmentally disabled women may experience menstrual symptoms differently and at a higher prevalence than neurotypical women.[1,2] While the American College of Obstetricians and Gynecologists (ACOG) recommend SSRIs as first-line treatment for PMDD,[3] limited evidence exists regarding their use in patients with ASD or other developmental disorders.

Methods

A literature search using PubMed with the keywords "PMDD" and "Autism" revealed limited published data and highlighted a lack of standardized management for PMDD in developmentally disabled populations.

We conducted a retrospective chart review of RISN Center patients diagnosed with PMDD (ICD-10: F32.81). Eleven patients were identified. Electronic medical records were analyzed for contraceptive use, behavioral medications, and treatment combinations.

Results

A total of eleven patients at the Regional Integrated Special Needs (RISN) Center were identified as having a diagnosis of Premenstrual Dysphoric Disorder (PMDD) based on electronic medical records. Among these patients, six had been prescribed hormonal contraceptives as part of their treatment plan. Of those six, three were concurrently

taking behavioral medications, suggesting that combination therapy is a common management approach within this population. The remaining five patients were not on contraceptive therapy; however, four of them were prescribed behavioral or psychiatric medications to help manage mood-related symptoms. One patient reported using only over-the-counter ibuprofen to control menstrual symptoms.

The age range of patients was 19 to 37 years old, with an average age in the late twenties.

Hormonal contraceptive types varied and included combined oral contraceptives (Yasmin, Yaz, Falmina, and Slynd), depot medroxyprogesterone injections (Depo-Provera), and medroxyprogesterone tablets. Behavioral medications also varied widely, encompassing selective serotonin reuptake inhibitors (SSRIs) such as fluoxetine and escitalopram, as well as anxiolytics (lorazepam, buspirone), antidepressants (desvenlafaxine), stimulants (methylphenidate), and antipsychotics (aripiprazole).

Overall, the findings revealed significant heterogeneity in treatment approaches among PMDD patients with developmental disabilities. While some relied solely on hormonal regulation, others required multiple behavioral medications, highlighting the absence of a standardized treatment protocol. Additionally, one patient was noted to be noncompliant with fluoxetine therapy, underscoring the challenges of maintaining medication adherence in this population.

AGE	Contraceptives	Behavioral Rx
19	Drospirenone-ethynyl estradiol (Yasmin)	None
21	None	Fluoxetine**
21	None	Fluoxetine, Lorazepam (prn)
22	Medroxyprogesterone (Depo-Provera)	Fluoxetine
23	Levonorgestrel/ethinyl estradoil (Falmina)	None
26	None	Aripiprazole, Clonidine, Lorazepam (pm)
27	Drospirenone (Slynd)	None
28	Medroxyprogesterone	Fluoxetine
30	None	Escitalopram
35	Drospirenone-ethynyl estradiol (Yaz)	Buspirone, Lorazepam, Desvenlafaxine, Methylphenidate
37	None*	None

Table 1
Medication results of RISN patients with PMDD.
*Patient controls menstrual symptoms with Ibuprofen. **Patient is non-compliant with medications.

Discussion

This study highlights the variability and complexity of treating Premenstrual Dysphoric Disorder (PMDD) among patients with developmental disabilities like autism spectrum disorder (ASD).
The results demonstrated a wide range of therapeutic approaches, including hormonal contraceptives, behavioral medications, and combination regimens. Despite the small sample size, the heterogeneity of treatment plans suggests that there is no standardized or universally accepted management protocol for this underserved population.
Several factors may contribute to this inconsistency. Patients with developmental disabilities often present with communication barriers and atypical symptom expression, which can complicate both diagnosis and treatment selection. Additionally, caregivers and providers may prioritize different outcomes—such as mood stabilization, menstrual suppression, or behavioral control—depending on the patient's functional level and comorbidities. This individualized approach, while necessary, may inadvertently lead to nonuniform prescribing patterns and variable treatment efficacy.

The observation that several patients were managed with both hormonal and behavioral medications raises important questions about polypharmacy and the potential for overlapping side effects. For instance, while SSRIs remain the first-line pharmacologic treatment for PMDD in the general population, their use in developmentally disabled patients warrants caution due to heightened sensitivity to psychotropic side effects and challenges with adherence. Conversely, long-acting contraceptive options such as Depo-Provera may offer improved compliance and mood stabilization while reducing the need for multiple medications. Identifying treatment efficacy through longitudinal monitoring of symptoms and side effect profiles within clinics that serve this population, like the RISN Center, may aid in finding a more effective and standardized treatment for PMDD among neurodivergent patients. Future studies may use this data to compare the efficacy of sole behavioral therapy vs. sole contraceptive therapy for PMDD treatment, which may create the potential to de-prescribe psychiatric medications and avoid augmented side effects within this population (dependent on outcomes).
Another notable finding was the underrepresentation of patients formally diagnosed with PMDD, despite clinical features suggesting that additional RISN patients may meet diagnostic criteria. This underdiagnosis likely reflects limited awareness of PMDD presentation in special needs populations, as well as insufficient screening tools tailored to neurodiverse individuals. Enhancing recognition of cyclic mood and behavioral changes through improved intake forms or caregiver-reported symptom diaries could facilitate earlier identification and intervention.
Overall, these findings emphasize the need for further research into tailored PMDD management strategies that balance treatment efficacy, safety, and simplicity.

Collaborative approaches between gynecology, psychiatry, and developmental medicine may help establish more consistent and effective care pathways for women with ASD and other developmental disorders.

Conclusion

Treatment for PMDD among developmentally disabled patients remains varied and inconsistent. This study highlights the need for further research to establish standardized, effective, and tolerable treatment strategies tailored to the unique needs of this population. ■

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RESEARCH

Comparing the Safety Profile of Switching from Salmeterol/Fluticasone to Indacaterol-Glycopyrronium Therapy in Patients with COPD: A Systematic Review and Meta-analysis of Randomized Controlled Trials

By Jay Patel OMS-III, Michael Bickford OMS-III, Susrut Dube OMS-II, Jonathan Elias OMS-III, Alissa Brotman O'Neill, DO

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Background:
Chronic Obstructive Pulmonary Disease (COPD) is one of the major contributors to morbidity and mortality globally. Current standard approach often includes an inhaled corticosteroid (ICS) combined with a long-acting beta-agonist (LABA), such as Salmeterol/Fluticasone. Though effective, chronic exposure to ICS increases the risk of adverse events such as an upper respiratory tract infection or pneumonia. As a result, there is growing interest in transitioning COPD patients from ICS-containing regimens to ICS-sparing options when clinically recommended.

Indacaterol (IND), a LABA, combined with Glycopyrronium (GLY), a long-acting muscarinic antagonist (LAMA), has shown therapeutic efficacy comparable to ICS/LABA therapy.

Despite the growing interest in de-escalating ICS therapy in eligible patients with COPD, there has not been a focused synthesis comparing the safety profile of directly switching from SFC to IND/GLY. We sought to determine whether switching patients from SFC to IND/GLY would impact the rates of adverse events and SAEs at the study endpoints. We hypothesized that the safety profile would be similar between the two therapies.

Methods
This systematic review and meta-analysis was conducted based on the 2020 PRISMA guidelines. The search was conducted on September 6, 2024, through five databases: PubMed, Embase, Scopus, Cochrane Library, and Web of Science.

Inclusion criteria:
- Randomized controlled trials (RCTs)
- Published in 2014 or later
- Direct comparison involving a switch from SFC to IND/GLY: ICS/LABA vs. LABA/LAMA
- Adverse events or serious adverse events reported

A total of 853 studies were screened, and 3 RCTs met the inclusion criteria, yielding 1,684 unique patients. Extracted data included adverse events and serious adverse events, which were analyzed by single-proportion pooled analysis with subgroup comparison. Analyses were done using RStudio. Heterogeneity across studies was assessed by $(t)^2$ and I^2 statistics.

Results
There were no statistically significant differences in the incidence of adverse events or serious adverse events between the ICS/LABA and LABA/LAMA groups.

Adverse Events:
ICS/LABA: 0.27 (95% CI: 0.20–0.34)
LABA/LAMA: 0.28 (95% CI: 0.24–0.31)

Serious Adverse Events:
ICS/LABA: 0.04; 95% CI: 0.01–0.06
LABA/LAMA: 0.03 (95% CI: 0.02–0.04)

Pooled data showed similar safety between the two treatment arms. For all adverse events, there was moderate heterogeneity, $(t)^2 = 0.0011$, $I^2 = 62\%$, likely resulting from the variation in study durations. These results, although not statistically significant, support the clinical feasibility of transitioning appropriate COPD patients from ICS-containing regimens to LABA/LAMA therapy.

Discussion

Switching from SFC to IND/GLY appears to maintain a similar safety profile, as there were no meaningful differences in rates of adverse events or serious adverse events. These findings reinforce the current clinical interest in reducing chronic corticosteroid exposure when it is safe to do so. While our pooled analysis does suggest comparable safety, there are some limitations to consider: treatment durations in the included RCTs were relatively short, limiting assessment of long-term safety outcomes such as rates of exacerbation, incidence of pneumonia, or pulmonary decline. Larger sample sizes and longer follow-up periods will be needed in future randomized trials to enhance statistical power and more adequately determine long-term safety, lung function outcomes, and exacerbation patterns. Reducing inappropriate ICS exposure may also decrease infection-related morbidity, potentially lowering outpatient antibiotic use and healthcare burden. Overall, IND/GLY seems to represent a safe option for COPD patients currently treated with SFC and particularly for candidates for ICS de-escalation.

Conclusion

The switch from ICS/LABA (SFC) to LABA/LAMA (IND/GLY) is characterized by a similar safety profile; the rates of AEs and SAEs are comparable. These results indicate that IND/GLY can be considered a safe alternative therapy for COPD patients currently receiving ICS-containing regimens. Larger and longer-term RCTs are necessary for further validation of these safety outcomes. ■

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FEATURE

Effects of Osteopathic Manipulation

On Inpatient Lengths of Stay at Morristown Medical Center

Aleksandr Abakulov DO, Jimmy Tawadros DO PGY-3, John Rutledge, Bernadette Bibber DO MBS

Abstract

Research into osteopathic manipulation (OMT) has largely been limited to the treatment of musculoskeletal conditions. While length of stay studies for inpatient OMT have shown length of stay benefit for NICU admissions and post-surgery patients, research into the benefits for the general inpatient population has not been performed. To evaluate the impact of OMT consultations on length of stay for the general inpatient population, we measured the average length of stays of the last 5 years of inpatient OMT consults and compared that population to the average length of stay for the family medicine service at Morristown Medical Center. As our family medicine service does not accept pregnant persons or children, those OMT consultations were excluded from our study. While we suspected that patients who received a consultation for Osteopathic Manipulation while admitted would have a shorter length of stay on average than patients who did not, we found that those who received OMT consultations had significantly longer median lengths of stay. This finding may be due to this studies' limitations including lack of control or small sample sizes, but we suspect that the observed difference may be due to delays in consulting OMT in cases it would be beneficial. Future studies would be indicated perhaps with randomized consultations chosen on the day of admission by the primary team which would allow better control for delays from admission to consultation which may affect median lengths of stay.

Introduction

Osteopathic medicine is a distinct branch of medical practice in the U.S. that emphasizes a "whole person" approach to patient care, focusing on the interconnectedness of the mind, body, and spirit. The number of osteopathic medical students is on the rise, according to the AOA. As of 2025, DOs make up 11% of all physicians and more than 25% of all medical students in the U.S. Despite the growing populations of osteopathic medical students and physicians, recent data suggest that less than half of practicing osteopathic physicians incorporate OMT into their practice, and those that do, do so for only a minority of their patients (1). Although organizations like the AOA have been on a mission to educate the public about the role of OMT, there are still many misconceptions from physicians and patients alike (2,3).

Most of the research into the benefits of OMT surrounds its role in chronic MSK pain and is conducted in the outpatient setting. In response to this evidence, current guidelines have been adapted to emphasize the importance of non-pharmacological treatments, such as OMT, when managing conditions like low back pain (4). Research surrounding OMT in the inpatient setting, as well as most inpatient consults, also revolve around treating MSK pain (5). The research for non-MSK inpatient problems has tended to focus on special populations like post-thoracotomy patients or infants admitted to the NICU and has not investigated benefits for the general inpatient population (6, 7).

While there is data that suggests that OMT may help with common inpatient conditions like post-op ileus and pneumonia, there is no significant evidence to suggest the utility of OMT for the general hospital population (8). However, some of the most abundant research into OMT proves its safety, as most sensitive populations had minimal adverse effects from treatment (9). The aim of this study was to investigate the role of OMM on inpatient length of stay in the general hospital admission population for a variety of medical indications.

We suspect that patients on our family medicine service who received an OMT consult while admitted would have a shorter average length of stay than the average length of stay for the general population.

To select our population, we gathered a list of every patient over the last 6 years of OMT consultations. As our family medicine service only admits adult non-pregnant persons, all pediatric and pregnant patients were omitted from this research project. We calculated the average lengths of stay for these patients and compared them to our annual averages for family medicine admissions for that year.

Methods

Medians and interquartile ranges (IQR) were reported to describe the LOS data, as the data distributions are inherently skewed. This was the case for both the osteopathic manipulation consultations and the family medicine patients in every period. Family medicine date range and average length of stay are shown below as Table 1. Nonparametric Mann-Whitney tests were used to compare the medians between the OM and FM groups. P-values less than 0.05 were considered to be statistically significant. IBM SPSS Statistics (ver. 29) was used for all analyses.]

Table 1

Date Range	ALOS	PT Totals
July 19-June 20	5.9	647
July 20-June 21	5.8	654
July 21-June 22	6.1	589
July 22- June 23	6.4	600
July 23-Jun 24	6.2	530
July 24-Dec 24	5.0	263

Table 2

	Mean LOS (SD)			Median LOS (IQR)		
	OM Consults	FM Patients	p-value*	OM Consults	FM Patients	p-value§
July 2019 – June 2020	15.7 (21.0)	5.9 (5.4)	0.006	9 (4 – 23)	4 (3 – 8)	< 0.001
July 2020 – June 2021	10 (12.0)	5.8 (6.4)	0.007	5 (4 – 10)	4 (2 – 7)	< 0.001
July 2021 – June 2022	10.2 (14.8)	6.1 (7.2)	0.03	5 (3 – 9)	4 (2 – 7)	0.005
July 2022 – June 2023	13.4 (16.7)	6.4 (8.0)	0.003	8 (4 – 19)	4 (2 – 7)	< 0.001
July 2023 – June 2024	13.3 (11.6)	6.3 (8.7)	< 0.001	9 (5 – 17.75)	4 (2 – 7)	< 0.001
July 2024 – Feb 2025	7.9 (8.2)	4.9 (3.9)	0.02	6 (3 – 10)	4 (2 – 7)	0.005

Table 3

Time Period	Median days consult - discharge	Median days admission - consult
7/2019 - 6/2020	3	4
7/2020 – 6/2021	3	2
7/2021 - 6/2022	2	2
7/2022 – 6/2023	4	3
7/2023 - 6/2024	4	4
7/2024 – 2/2025	3	

Results

We found that the median length of stay for the group that received inpatient OMT consults had significantly longer lengths of stays compared to our family medicine service, as seen in Table 1. These differences were found to be significant across all evaluated time periods.

Conclusion

Our study found our hypothesis to be incorrect in that the patients who had osteopathic manipulative treatment consults while inpatients had longer average lengths of stay than the average lengths of stay for the family medicine service for that given year.

Discussion

There are many factors to consider as to why our study did not find the results that we anticipated. Firstly, many of the patients we were consulted on were for complications acquired during the hospitalization (Pain, constipation, etc) that were not present on admission. Secondly, our consult service population was not large enough for us to adequately control individual differences between patients in terms of other co-morbid conditions, risk stratification, or demographics.

Post hoc descriptive statistics (depicted on Table 3) grant us some insight into why the length of stays may have been longer than average, as there was a median of 2-4 days from admission to consult across the time periods. This suggests that we may yet see a length of stay reduction with OMT consultation if the consultation was placed on admission. One reason I suspect this may be is that the hospital-acquired complications, which prolong the length of stay (constipation, atelectasis, pain exacerbations, deconditioning), may have been prevented if the patient had received Osteopathic Manipulative Treatment earlier on in their treatment course.

To expand this, we plan on doing future research into the effects of OMT consultation on length of stay. To avoid the same limitations that affected this project, I plan on creating a protocol where a random patient is chosen for consultation on admission from our census so that we can more accurately investigate if lengths of stay could be decreased by early intervention with OMT.

Disclosures/IRB

Outside of our affiliation with Morristown Medical Center's Family Medicine Program and Atlantic Health, there are no disclosures to make regarding the content of this research paper.

This study was performed under IRB exemption which was submitted and approved prior to initiation.

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RESEARCH

Lupus, Marijuana, and Takotsubo: A Perfect Storm

Matthew Orap, DO PGY-1, Internal Medicine Baylor Scott & White Medical Center

Introduction:

Takotsubo cardiomyopathy is a type of myocardial injury that is marked with left ventricular contraction dysfunction. The estimated annual incidence is 50,000 to 100,000 cases in the United States, and less than 90% of those affected are post-menopausal women. We present a case of a patient with Takotsubo cardiomyopathy due to poorly controlled Systemic Lupus Erythematosis (SLE).

Case A 38-year-old woman with a history of Takotsubo cardiomyopathy, ANA-positive SLE, and multiple psychiatric comorbidities presented with severe abdominal pain, nausea, and vomiting. She described the pain as a burning sensation radiating from the right side of her abdomen to her chest and head, with intensity reaching 10/10. During evaluation, she had a brief syncopal episode without seizure-like features, and testing revealed a prolonged QTc on EKG along with reduced LVEF (EF 20-25%) (which % EF?) and apical ballooning on echocardiogram. Her symptoms have recurred since June 2022, resulting in multiple hospitalizations including a recent one for syncope. She reports drinking 6–12 beers daily and smoking marijuana four times per week to cope with stress, along with worsening fatigue and joint tenderness.

Decision Making:

Following echocardiography, her psychiatric medications were withheld due to the risk of QT prolongation. She was restarted on Toprol-XL 12 mg and ivabradine 5 mg for her chest pain. A loop recorder was placed, and she was discharged with a LifeVest to address the increased incidence of fatal arrhythmias given her markedly reduced EF. She was counseled on alcohol and cannabis cessation, as well as scheduled a follow-up with cardiology and rheumatology for coordinated management of her SLE.

Conclusion:

Takotsubo cardiomyopathy can be primary resulting from acute cardiac causes or secondary to another condition, and it presents in various forms such as typical apical ballooning, inverted, or mid-ventricular patterns. Our patient, a 38-year-old woman with SLE and a history of Takotsubo cardiomyopathy, presented with severe abdominal and chest pain, recurrent syncopal episodes, and symptoms consistent with typical Takotsubo on echocardiogram. Her condition appeared to be secondary to worsening SLE, compounded by significant stress, heavy alcohol use, and frequent cannabis use. Follow-up imaging showed recovery of ventricular function, supporting the diagnosis of stress-induced cardiomyopathy. SLE as a cause of Takotsubo cardiomyopathy is not well studied, and addressing her autoimmune disease activity and psychosocial stressors is essential to prevent future exacerbations. ■

Legislative Road to Success

NJAOPS
New Jersey Association of Osteopathic Physicians and Surgeons

The Legislative Victories, Challenges and Opportunities 2024 - 2025

Payment Parity for Tele-Health (18-month extension) A5757/S4127

Prevented APN Achieving Independent Practice A2042/S1057

Transparency in Prior Authorization Requirements A1255/S1794

Legislation to Prohibit Credit Card Payments by Insurers A4913/S3133

Help us to continue our advocacy for you to ensure Legislative Successes like these!

RESEARCH

Maternal Care for Afghan Refugees in Southern NJ

Authors and Affiliations: Tanvi Shah[1], Amy Nguyen[1], Mariana Sales[1], Jaclyn Schultz[1], Michelle Salvatore, DO/MD[2]
[1] Rowan-Virtua School of Osteopathic Medicine
[2] Virtua Health - Mount Holly Hospital

Introduction:

The Afghan refugee crisis, sparked by the rapid collapse of Afghanistan's government and the Taliban's return to power, led to the evacuation of 18,000 Afghans in 2021. This humanitarian emergency prompted a massive airlift operation, with many evacuees transported to military bases across the United States, including Joint Base McGuire-Dix-Lakehurst (Fort Dix) in New Jersey. Fort Dix became a hub for resettlement efforts, providing temporary housing and support services to Afghan refugees.

Case:

From September 2021 to March 2022, Virtua Mount Holly (VMH) served as the home hospital for roughly 5,000 incoming refugees due to its proximity to Fort Dix. With less than a weekend's notice before their arrival, and under the limitations of COVID-19 lockdown precautions, the VMH clinical and administrative teams began mobilization efforts to acquire the necessary resources and equipment. Significant challenges arose during maternal care, including an increased need for interpretation services, staff shortages, transportation difficulties, differing standards of prenatal care, and exposure to diseases not frequently seen in the United States. The best communication outcomes were observed with in-person translator services compared to phone or virtual.

Discussion:

The OB/GYN team at VMH had to adjust quickly to provide optimal healthcare that was both informed by the culture of the refugee population and by the trauma that they had experienced. Steps were taken, such as ensuring that patient preferences for female providers were known throughout the floor to respect religious restrictions. Additionally, providers began looking more closely at mental health screenings to determine whether patients were experiencing postpartum depression, post-traumatic stress disorder, adjustment disorder, or some combination thereof. By adjusting quickly and maintaining constant communication within the team and with patients, the VMH team could provide appropriate and culturally sensitive care.

Conclusions:

This case report emphasizes the importance of maintaining a flexible and open-minded approach when providing care to diverse patient populations. By practicing cultural humility and appreciating a wide range of customs and beliefs, healthcare professionals can build trust, improve patient outcomes, and create supportive environments that are individualized to each person's situation.

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IN TRENTON

We have your back...

So you can move forward in your career

The Jersey Osteopathic Political Action Committee (JOPAC) is dedicated to the advocacy and advancement of osteopathic physicians and surgeons that practice in the State of New Jersey. Through political activities, interaction and partnerships — JOPAC seeks to pursue legislative outcomes that support the professional and civic interests of DO's, and to sserve as a guide to some of the important issues that face medical professionals today.

We invite you to learn more and consider a contribution. Contact us at info@njosteo.com to recieve information today!

JOPAC
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Political Action Committee

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RESEARCH

Counterstrain: Case Report on the Underrated but Powerful Relief for Persistent Musculoskeletal Pain

Aphnie Germain, DO; Frenda Yip, DO; Sachi Desai, DO; Matthew Resciniti, DO

Overlook Medical Center, Department of Family Medicine

Background

Acute back pain is one of the most common complaints seen in primary care and about 70% of the population [2]. It is often self-limiting but has a high recurrence rate within one year [2]. It can be managed through osteopathic manipulative techniques (OMT), which is a hands-on treatment practice used by physicians that focus on manipulating specific muscles and joints to help diagnose, prevent and treat conditions. These are non-opioid pharmacologic therapies that have been studied to be effective in treating musculoskeletal pain, including acute back pain. In various studies, it has been shown that OMT can significantly reduce low back pain, greater than expected from placebo effects [1]. This case report discusses augmentation of treatment with OMT in the management of quadratus lumborum somatic dysfunction.

Case Presentation

A 43-year-old male with no significant past medical history presented with acute low back pain radiating to his groin and anterior thigh after bending over while working on building a desk.

HPI: He reported severe muscle spasms on the left side that limited his ability to work. He also noted left leg weakness, primarily with hip flexion, occasional instability while climbing stairs, and associated migratory numbness in the left anterior thigh (L1-L4 dermatomes). Initial treatments included Ibuprofen, Flexeril, and a Medrol Dosepak, which provided minimal relief. Pain worsened with leftward leaning, running, and prolonged ambulation, pain related insomnia and minimally improved with rightward leaning and at rest.

Physical Exam Findings:

- Tenderness, tissue texture changes: No bony tenderness or step-off during palpation of spinous processes. Mild palpable tenderness noted around the left PSIS and L4 paraspinal muscles.
- Range of motion: Decreased hip flexion secondary to pain. Lumbar spine with full range of motion.
- MSK exam: 5/5 strength in RLE, 4/5 strength in LLE with resisted left hip flexion. Negative slump test. Positive reverse straight leg raise on the left, pain with leftward loading, and relief with rightward loading with antalgic gait of the left hip.
- Neuro exam: Reflexes 2/4 in the knees and ankles bilaterally. Intact sensation to light touch in L4-S1 dermatomes, 2+ symmetrical reflexes in bilateral patella and achilles.

Assessment: The patient was diagnosed with acute low back pain likely due to a hypertonic right quadratus lumborum muscle, and left psoas, without significant findings suggestive of sciatica or radiculopathy.

Management: He was started on gabapentin but continued to experience constant pain and discomfort. Initial OMT and stretching, including muscle energy (ME) techniques for the psoas and quadratus lumborum, were ineffective. However, the use of counterstrain to the psoas muscle led to significant improvement and eventual resolution of symptoms, enabling him to walk and move comfortably without any remaining pain.

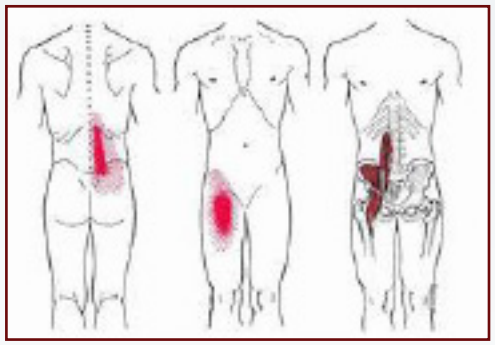

Figure 1a: Referred pain with Psoas muscle strain [10].

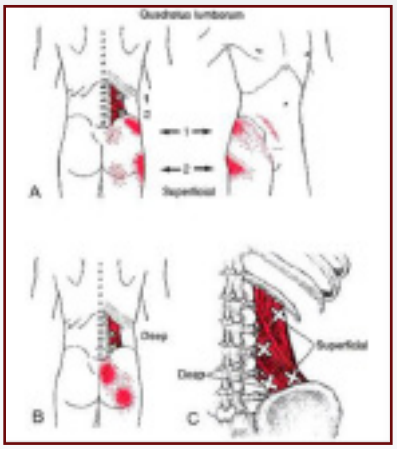

Figure 1b: Referred pain with Quadratus lumborum muscle strain [11].

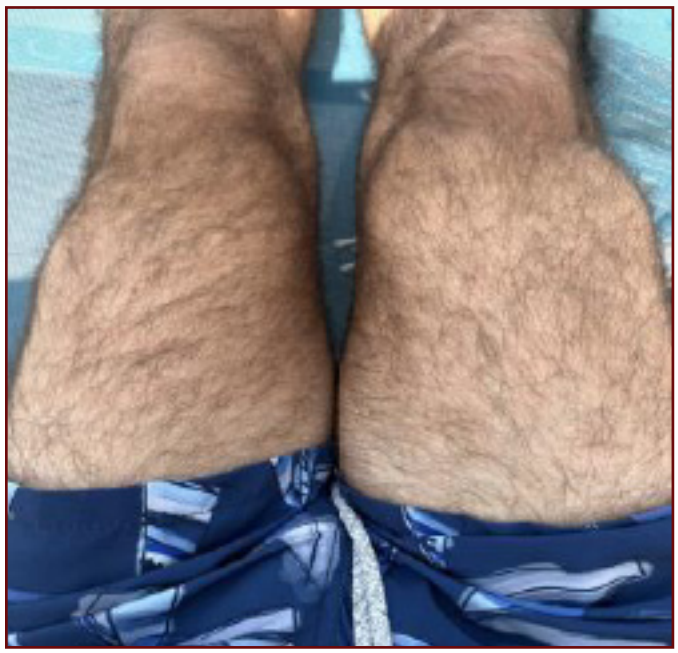

Figure 2: Thigh measurements - Left mid-thigh circumference decreased to 43 cm at symptom onset, reflecting muscle atrophy. Increased to 52 cm after six months of treatment, similar to unaffected right mid-thigh circumference of 54 cm [12].

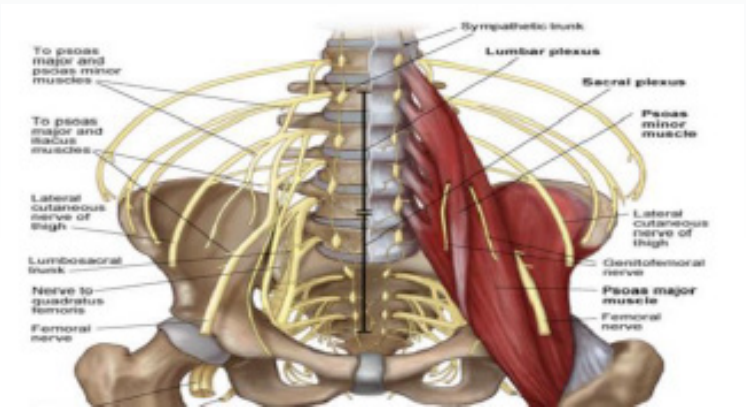

Figure 3: Psoas Major - crucial muscle in the posterior abdominal wall, originating from the T12 to L5 vertebrae and inserting on the femur, where it aids in hip flexion, lumbar spine stabilization, and maintaining posture. The femoral nerve, arising from the lumbar plexus, passes through the psoas and supplies motor and sensory function to the anterior thigh, including muscles like the quadriceps and sartorius [13].

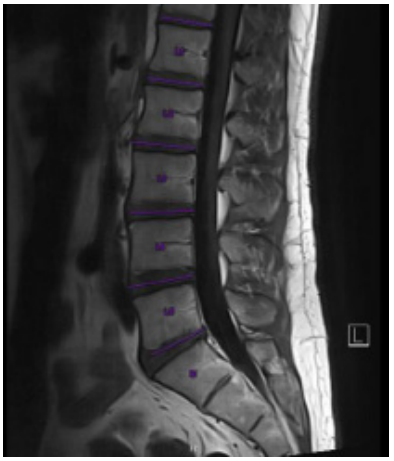

Figure 4: MRI lumbosacral spine - mild disc bulging at L5-S1 without herniation or significant canal or foraminal narrowing, unremarkable remaining disc spaces, and mild facet arthropathy in the lower lumbosacral spine [14].

Discussion

Recognizing Quadratus lumborum and psoas spasms are key in diagnosing acute low back pain. Imaging may not match symptoms, requiring a thorough exam. The psoas muscle stabilizes the lumbar spine and pelvis; irritation can cause pain and nerve entrapment. Psoas tightness shortens and entraps the femoral nerve, causing pain, numbness, and weakness, thereby worsening Quadratus lumborum spasms [5,7,8]. Prevention focuses on posture, muscle imbalances, and spinal health. Treatment for Quadratus lumborum spasms includes NSAIDs, muscle relaxants, therapy, and OMT [4]. Manual therapies, including counterstrain, which has few contraindications, relieve muscle tightness by positioning the muscle to reduce spasm and trigger point tenderness [3,6]. ■

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Acknowledgement

We wanted to thank Dr. Resciniti for providing us with this case and supervising us during this process.

FEATURE

Implementing Solutions for Improving the Value of Pre-Med Shadowing

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Abstract:
Research shows that pre-med student shadowing is an important part of a successful medical school application. Research also shows that there are significant issues with the quality and value of these experiences and concerns about social determinants that limit access to shadowing experiences for all. This manuscript discusses literature evidence and personal experiences of students to demonstrate the importance of physician volunteers to maximize and broaden the opportunities available and the value of those opportunities. This manuscript also discusses the benefits of this volunteering within structured programs embedded in a student's pre-med education and specifically explains how these structured programs have the potential to solve concerns about pre-med student shadowing.

Student Shadowing Experiences Are Vital:

Shadowing is generally considered an essential component of a medical school student's application leading to 95% of students discussing that they had completed a shadowing experience when asked in the 2024 AAMC Matriculating Student Questionnaire.[1] This expectation is despite the existence of no defined number of expected shadowing hours and the existence of many forms of shadowing being without established objectives.[1] This flexibility of objectives and shadowing styles has even allowed the development of virtual shadowing experiences; watching either live or pre-recorded videos of patient visits.[1,2] This is a trend which continues since its initiation during the COVID-19 pandemic; and which may have some continued utility to give students access to observe high risk clinical situations.[1,2] Virtual shadowing experiences are an excellent example of the great variability and inconsistency of a student's potential shadowing experience options.[1,2] College advisors tend to recommend about 100 to 150 hours of shadowing logged and this can be a great challenge for applicants.[1] Challenges include that shadowing opportunities sometimes necessitate a gap year to coordinate scheduling of the significant volume of hours.[1] This is particularly true in the case of students balancing employment or personal interests such as athletic obligations, art, music, and foreign language proficiency.[1] Active engagement for employment and/or extracurricular interests is generally understood to give applicants strengths for core competencies that could serve them well in medical school and strengthen an application but integration with shadowing demands makes schedules less flexible as time commitments grow.[1] Financial cost is another challenge coming mainly from the need to complete significant shadowing time goals or participation in clinical shadowing programs that are often without remuneration.[1] The process has become competitive with some programs even having added an additional application process hurdle before admission to programs where these important shadowing hours could be accumulated.[1]

Student Shadowing Problems To Solve:

Variable quality of shadowing hours completed and these significant difficulties completing shadowing hour goals motivate important questions including whether shadowing is just a perceived need leading to a wasted focus of effort or an actual requirement for important

→ Article Continued on Page 26

CAPITAL VIEWS

Challenges Faced: A Look Back at 2025 in Trenton

Laurie A. Clark

Governor's Race: On Tuesday, November 4, Congresswoman Mikie Sherrill was elected to be the 57th Governor of New Jersey. Top vote getters: The Governor – elect received 1, 829, 147 votes (56.5%) Jack Ciattarelli received 1, 392,136 votes (43.0%). The new Governor will be sworn in on January 20, 2026. We congratulate they Governor-elect and look forward to working with the Governor and the new administration on critical healthcare issues.

Many thanks to our leadership, board members, general membership and coalition partners for their support in 2025 — Membership and Engagement matters!

Legislative Races
The New Jersey General Assembly will remain in Democratic control after Tuesday's election. The members of the Assembly Democratic Caucus convened in Trenton last week to select the Leadership Team for the 222nd Legislative Session. Speaker Craig J. Coughlin was chosen to serve a historic fifth term as Speaker of the New Jersey General Assembly. The Caucus met following the General election in which high turnout helped power Democratic victories across the state. Democrats in the Assembly successfully defended every seat and flipped an additional three seats for a 55 - 25 majority.. That is the largest majority held by Democrats in fifty years.

The gains in last week's election show a continued voter shift to the Democratic Party. Since the 2023 election, Assembly Democrats picked up nine seats. The last time a party picked up four or more seats in consecutive elections was 1989-1991.

The Caucus also voted to return Majority Leader Louis D. Greenwald (D-Camden, Burlington) to serve an eighth term in his leadership position. Speaker Pro Tempore Annette Quijano (D-Union) will begin her first full-term in this position, and Assemblywoman Linda Carter (D-Somerset, Union) will begin her first full term as Majority Conference Leader

Senate President Nick Scutari and Senate Majority Leader M. Teresa Ruiz were both unanimously reelected to their leadership positions for the 2026-27 legislative session by their Senate Democratic colleagues..

Assemblyman John DiMaio was selected once again to be the Assembly Republican Leader.

Senator Anthony Bucco was re-elected as the Senate Republican Leader

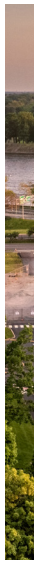
Reorganization of the 222nd Legislative Session will take place on January 13, 2026, when all members will be sworn in and an official vote on leadership will take place.

Highlights of the 221st Legislative Session:
As I write this, the Lame Duck Legislative session is hectic with a massive amount of activity. This session will be active until 12 noon on January 13, 2026 at which time the members of the 222nd Legislature will be sworn in. Governor Murphy will remain in office until 12 noon on January 20 so that any bills that reach his desk can be considered.

Scope of Practice Update:
LAME DUCK SESSION BRINGS UNWELCOME SURPRISES

OPTOMETRIC SURGERY BILL APPEARS HEADED FOR ASSEMBLY FLOOR VOTE
We were informed that there appears to be a move in progress to bring, A 920 to the Floor of the New Jersey General Assembly for a vote. This bill would allow surgical procedures by optometrists. This could take place on either December 22 or January 12, 2026.

NOT MINOR, NOT SIMPLE
Despite the rhetoric that's been floated out there, this bill is not merely permitting optometrists to perform "minor" or "simple" eye procedures. Respectfully, these procedures are surgery, and should only be performed by Ophthalmologists - the medical doctors/surgeons that have the education and training that is commensurate with such procedures.



CO-PAY ACCUMULATOR BILL IN FINAL STAGES
BRAMNICK BILL TO LOWER HEALTHCARE COSTS PASSES SENATE

The New Jersey Senate passed Senator Jon Bramnick's (R-21) bill (S3818) that would help lower healthcare costs in New Jersey by including discounts when calculating payments made for prescription drugs toward their out-of-pocket maximum.

"Too many New Jerseyans are paying more than they should for healthcare, even when they do everything right," said Sen. Bramnick. "This commonsense bill ensures that insurer-negotiated discounts count toward a patient's out-of-pocket maximum, ultimately lowering costs and making healthcare more affordable for patients across our state."

The bill needs concurrence by the New Jersey General Session with Senate Floor Amendments. At this time, it is anticipated that this will occur before the current session concludes.

A TOTAL BAN ON NON-COMPETE CLAUSES MOVING AHEAD

BILL STRENGTHENING EMPLOYEE RIGHTS CLEARS ASSEMBLY COMMITTEE

A5708 would amend existing labor laws to prohibit non-compete clauses

Assemblyman Anthony Verrelli's bill to prohibit the use of non-compete clauses, with certain exceptions, and no-poach agreements cleared the Assembly Labor Committee on December 5. Bill A5708 seeks to strengthen employees rights and encourage fair competition in the labor market.

"All employees deserve the ability to pursue new opportunities without being shackled by outdated and restrictive agreements," said Assemblyman Verrelli (D-Hunterdon, Mercer), Chair of the Assembly Labor Committee. "By prohibiting non-compete clauses and no-poach agreements, we are standing up for employees rights, promoting a healthier labor market, and creating a level playing field for businesses across our state."

Under the bill, no employer – whether public, private, or nonprofit – would be allowed to require, demand, or accept a non-compete agreement for any employee or other individual who provides services for, or on behalf of, the employer. Additionally, every contract restraining an individual from engaging in lawful professions, trades, or businesses after employment termination would to that extent be void.

The bill would include exceptions to ensure that legitimate business interests, such as trade secrets, are protected without restricting employee mobility. Similarly, non-compete agreements established during the sale of a business entity, its operating assets, or ownership interests are allowed. Existing non-compete agreements with senior executives would also remain valid if they meet specific requirements.

The bill would also explicitly ban no-poach agreements where employers agree not to hire each other's employees or former employees.

A5708 would note that there must be no retaliation against employees who exercise their rights under this bill.

Assemblyman Verrelli, who has been a proud union member for 35 years, noted that legislation stems from a landmark finding from the Federal Trade Commission that non-compete clauses trap workers and hold back the economy.

While we do not anticipate this moving further at this time, the legislative sponsors are committed to moving forward in the new Legislative Session. ■

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RESEARCH

Patient Choice is the Colon Cancer Screening Standard of Care

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Abstract:
There is broad understanding that colon cancer screening is important for preventing negative outcomes and is a valuable focus for clinician preventative care. Research has established an over 20 year history of patient choice for colon cancer screening methods leading to improved outcomes for screening method completion. Programs that give patients direct access to colonoscopy are important to overcome known barriers to colon cancer screening and help clinicians to optimize the improved outcomes seen when offering patients choices for colon cancer screening. The development and regulatory approval of new colon cancer screening methods, including blood testing, is rapidly growing and diversifying the scope of colon cancer screening options on the horizon. This is foreshadowing a world where more options will likely further enhance patient access to colon cancer preventative care screening. Offering those options is the clear standard of care that physicians can implement to make this future a reality.

Patient Choice is the Colon Cancer Screening Standard of Care:

The Center for Disease Control (CDC), the American Cancer Society (ACS), and the American College of Gastroenterology (ACG) share an understanding that shows broad agreement regarding the importance of colon cancer screening and they support preventative care guidelines recommending colon cancer screening for all patients 45 to 75 years of age.[1,2,3] The ACG 2021 guidelines describe that they are an update to the prior recommendations in 2009 due to new information about colon cancer, new options for screening, and knowledge of the efficacy of these new screening tools allowing broader access to colon cancer screening preventive care.[3] A study completed in 2012 is an excellent example of some of the new information that establishes providing options as the most efficacious colon cancer screening method.[4] This study included 997 participants and 58% of this group completed the colon cancer screening recommended to them in their research study subgroup.[4] What is notable about this research study is that the majority of this 58% of participants were patients who were offered options for colon cancer screening.[4] Significantly less patients ($P < 0.001$) completed colonoscopy if recommended alone without options at just 38.2% compared to patients choosing to engage in colon cancer screening provided as fecal occult blood testing or colonoscopy at 68.8%.[4] This published research is an example that establishes an over twenty year history of knowledge that providing options for colon cancer screening leads to the best outcomes.[4] Providing options for colon cancer screening as the colon cancer screening standard of care is long established as the most appropriate clinical approach because providing options has been shown to result in more people initiating lifesaving screening.[4] Another notable finding of this research was that significantly more participants completed their colon cancer screening protocol, including indicated colonoscopy, if it was their initial choice when given options or if indicated by positive stool testing results if this alternative was offered alone,

68.8% (P = 0.004) and 67.2% (P = 0.01) respectively, than if colonoscopy was recommended alone without options with just 58.1% completing colonoscopy screening.[4] Whether a physician would like patients to complete colonoscopy screening or is open to screening alternatives the evidence is clear that offering screening options leads to the best outcome of more completed colon cancer screening.[4]

Access to colonoscopy care is another component of this issue which was fortunately addressed in the 2012 study research methods.[4] Direct scheduling for colonoscopy without a gastroenterologist appointment was completed for any participant that agreed to complete a colonoscopy as part of the research program.[4] This reduced procedure wait times that were a known barrier to care and this research variable was mitigated by the implementation of a direct access colonoscopy program for research participants.[4] The Penn Medicine Princeton Health Open Access Colonoscopy Program is a current example of how this can be replicated today; allowing patients with a purely routine screening need or a clearly defined routine clinical follow-up need to complete colonoscopy screening without a preoperative gastroenterologist office visit.[4,5] Some examples of clearly defined routine clinical follow-up needs include colonoscopy screening indicated by a positive stool test or indicated follow-up colonoscopy testing after a diverticulitis event.[4,5] The preoperative colonoscopy gastroenterologist office visit is a step that is a known barrier to care and Penn Medicine Princeton Health physicians are fortunate to work where the open access colonoscopy program can be a support to guide patients in need directly to colonoscopy evaluations.[4,5] This further achieves high quality preventative care colon cancer screening outcomes by removing known barriers to care and allowing physicians who offer their patients colon cancer screening choices a greater likelihood of replicating the outcomes seen in the 2012 study.[4,5] ■

Conclusion:

For over twenty years providing options for colon cancer screening has been the proven standard of care because providing options has been shown to result in more people completing colon cancer screening.[4] This includes more people completing indicated colonoscopies if it is their initial choice or if indicated by positive stool testing results.[4] Access to colonoscopy care is another component of this issue and programs like Penn Medicine Princeton Health's Open Access Colonoscopy Program help patients avoid delays and overcome barriers to accessing needed colonoscopy screening evaluations.[4,5] The development and regulatory approval of new colon cancer screening methods, including blood testing, is rapidly growing and diversifying the scope of colon cancer screening options on the horizon; foreshadowing a world where more options will likely further enhance patient access to colon cancer preventative care screening.6 Offering those options is the clear standard of care that physicians can implement to make this future a reality.[4,6]

Acknowledgment:

I appreciate and encourage the efforts of all physicians dedicated to colon cancer screening and I especially wish to thank those committed to offering options to optimize colon cancer screening efficacy.

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shadowing experiences that prepare a pre-med student for medical school.[1] When students who generally completed 20 hours of shadowing or less were evaluated, 90% were able to define that medicine was their career choice; showing limited value of any hours beyond this for the establishment of professional goals.[1] Research also shows that students who shadow a physician for at least 50 hours are more likely to be accepted to medical school; somewhat explaining why many college advisors tend to recommend about 100 to 150 hours of shadowing logged.[1] The same research showed a focus of great concern; showing that those admitted having completed shadowing experiences as part of their application were more likely to be from high income families.[1] This establishes the perceived admission requirement of shadowing as a concerning barrier preventing successful applications from those with backgrounds including financial limitations.[1] This was further considered by specifically looking at the Uniformed Services University (USU); which was considered because a commitment to a seven year service obligation would cover the cost of medical school and provide a salary during the commitment duration.[1] This suggests that USU applicants were likely overcoming financial limitations of the medical school application and completion process.[1] Just 59% of applicants to USU completed shadowing experiences, which is consistent with concerns that shadowing experiences are inaccessible for low-income applicants and a shadowing requirement, even if just perceived or implied, would compromise a fair application process.[1]

Implementing Solutions for Student Shadowing Problems:

These concerns partly fuel a debate about whether many hours of unstructured shadowing represent an experience that imparts a clinical skill benefit for the observer or rather is limited to being just a superficial clinical participation that lacks value.[1] There are also those who argue that the presence of additional pre-med student observers places limitations on the experience of those completing similar activities as already accepted medical school students or resident physicians.[1] Recommendations to solve these issues and ensure observation experiences can be considered meaningful authentic engagement include establishing a code of conduct for pre-med students shadowing and establishing requirements for students to achieve during their observation experience.[1]

The Rutgers Health Professions Office Alumni Shadowing/ Mentoring Program is an example of a program with this structure including a physician mentor matching process and professional etiquette guidelines; all available for interested students to review on their website.[1,2] Programs like this also establish a structure for physician engagement that helps to broaden access to shadowing experiences; especially to those students who are without existing personal knowledge of a physician who can welcome them to a needed shadowing experience.[1,2]

Integration of the shadowing process into undergraduate education mitigates financial barriers that can be associated with meeting shadowing hour log expectations by eliminating the need for students to take time, such as a gap year, to find opportunities.[1,2] Structured programs with a formalized student mentor matching process allow for students to customize their shadowing preferences based on the availability of both parties' schedules, allowing for optimum flexibility and integration of shadowing into other components of a student's well rounded application.[1,2] Programs that match interested students with pre-selected physician volunteers from the local community additionally establish that the experience completed, even if limited hours are completed around a student's ongoing obligations, would be completed in the context of program expectations and would likely be of greater value.[1,2]

Seher Talukdar's and Kate Yashmanov's Student Shadowing Experiences:

AT Still clearly states that experiences are of great informative and instructional importance to him when stating "I quote no authors but God and experience when I write, or lecture to the class or the masses" in his book "Philosophy of Osteopathy."[3] AT Still would certainly be someone who was a strong supporter of students engaging in formative shadowing experiences as part of their medical school growth and training.[3] He would encourage physicians to seek opportunities to volunteer to be a part of structured shadowing programs and specifically would encourage NJAOPS members to email Tajma Kotoric at tkotoric@njosteo.com to volunteer to welcome undergraduate students from The Rutgers Health Professions Office Alumni Shadowing/ Mentoring Program to experience medicine with the benefit of their physician mentorship.[2,3] AT Still is the founder of osteopathic medicine and his statement of philosophy, resonating from the foundation of the osteopathic profession through to today, motivates the inclusion of the personal discussions of the firsthand experiences of Rutgers Health Professions Office Alumni Shadowing/Mentoring Program students Seher Talukdar and Kate Yashmanov in this manuscript.[2,3] Seher Talukdar credits the Rutgers Health Professions Office Alumni Shadowing/Mentoring Program for allowing her to get her start on clinical hours and shadowing.[2] She experienced how searching for physicians willing to take on shadowing students can be a lengthy and daunting process, particularly if the pre-med student does not know where to begin. The

Health Professions Office was able to offer the solution by having a list of physician volunteers who are prepared and enthusiastic about introducing new students to their practice.[2] Shadowing provided Seher exposure to the routines and demands of several different specialties and clinical settings. She feels that this could be considered a strong deciding factor for pre-med students when determining what medical fields they would like to pursue or if medicine is truly the best fit for them, however, what she found most crucial was the flexibility and personalization that was made possible through this program. As a Division 1 student athlete, in addition to working multiple jobs during her summers, time was a significant limiting factor in accumulating shadowing hours. The program's matching process allowed Seher to find volunteer physicians close to her campus with availability that aligned with her own or those willing to accommodate rigid limitations.

Additionally, Seher also highlights the aspect of shadowing that encompass skills that go beyond what classroom learning can provide. Being able to observe different diagnostic approaches, various physician-patient interactions, and see the adaptability of perspectives required for each case were the features that defined her shadowing experience. She feels that this type of exposure can only be conveyed to a limited extent from a university lecture; seeing it in-person is another story. According to Seher, being able to shadow a physician passionate about their work while they are in their own clinical setting is what allows her and other students to truly learn whether their future is in medicine and how wonderful and impactful it can be.

Kate Yashmanov also found clinical shadowing to be an integral part of developing a student's understanding of the medical field, patient care, and the role that a future doctor would like to play in it. She feels that the benefits of shadowing are substantial but the implementation can be challenging to integrate equitably. She was moved by her shadowing experience to reflect on research published in the Journal of Maine Medical Center (MMC) aimed at developing structured, equitable, and longitudinal shadowing opportunities to support budding medical careers.[4] The MMC program included over 500 students requesting shadowing within just two years, revealing high demand for such programs.[4] This research additionally found that underrepresented minorities and low-income students have less access due to lack of professional connections, financial barriers, and the absence of mentors in medicine.[4] Kate Yashmanov is a first-generation undergraduate student in the United States of America and Kate has great empathy with the participants in the MMC research because Kate too had struggled to find shadowing, clinical, and research opportunities due to many of the same limitations.[4] Fortunately, the Rutgers Health Professions Office Alumni Shadowing/ Mentoring Program offered her the chance to shadow in a structured fashion, building a strong professional connection in the field, and fostering a mentorship relationship.[2] The lengthy Rutgers Health Professions Office Alumni Shadowing/Mentoring Program pre-screening process including the submission of a CV/resume, ranked interest form, immunizations, code of conduct forms, and HIPAA compliance forms created a

foundation for Kate to be able to begin her shadowing experience at Penn Medicine Princeton Health.[2] The four to eight hour-long sessions once weekly totaling 40-50 hours strengthened her commitment and interest in becoming a physician. She was able to view a broad perspective of medical practice components including observing the key role of communication and trust amongst the physicians, nurse practitioners, nurses, medical assistants, phlebotomists, and receptionists to keep medical practice operations running smoothly. She also observed the importance of compassion, empathy, and understanding in maintaining strong physician-patient relationships in the context of often difficult medical discussions and treatment planning. The broad perspective shadowing allowed also included experiencing difficulties faced by physicians including a heavy workload with strong burnout potential and sharing in the disappointment that occurs when being confronted with inefficiencies of the medical system, such as relationships with insurance companies negatively influencing patient care. She has determined that the fulfilling, collaborative, and nurturing nature of this career outweighs any negative aspects of the field and hopes to pursue medical school moving forwards. She is aware of data like the AAMC Clinical Experiences Survey which found that 73% of medical schools require shadowing while 87% of medical schools described an absence of clinical exposure as an application disadvantage.[5] While she knows that her shadowing is definitely an essential component of her application she also feels that the experience is so much more than just hours accrued but rather a set of experiences that will allow her to enter the medical school application process with a realistic understanding of the challenges and joys that are associated with being a doctor; an invaluable additional perspective from shadowing she could not otherwise have.[4,5]

Conclusion:

Regardless of where a physician's opinion is regarding the debate about the value of shadowing experiences, medical school acceptance rates that are higher for those who have completed shadowing experiences establishes a clear importance of shadowing as part of the successful application process.[1,4,5]

Optimizing the value of this experience and ensuring that it is accessible to all without social barriers becomes the needed focus.[1,4]

Structured programs such as the Rutgers Health Professions Office Alumni Shadowing/ Mentoring Program help to solve these problems by establishing clear codes of conduct and accomplishment goals for students while integrating the shadowing process into a students' ongoing pre-medical education.[1,2] Physicians can and should seek these types of programs in their local community and volunteer to enhance the opportunities for shadowing that structured programs have to offer.[1,2,4] This would broaden the effectiveness of these programs to optimize access to and optimize the quality of the pre-med student shadowing experience.[1,2,4]

Acknowledgment:

We appreciate the efforts of all physicians dedicated to welcoming students to shadowing experiences and we also in advance want to thank physicians that plan to start or expand access to pre-med student shadowing experiences. If you are an NJAOPS member and interested in becoming a mentor and allowing undergraduate students to shadow you from The Rutgers Health Professions Office Alumni Shadowing/Mentoring Program please contact Tajma Kotoric at tkotoric@njosteo.com.[2]

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