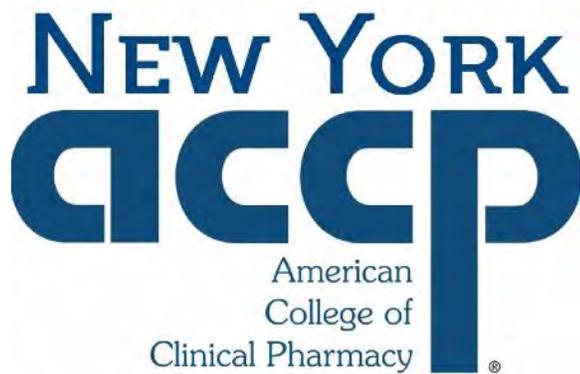


NYS- ACCP INSIDER



Special Points of Interest

- The 2017 Annual ACCP meeting Synopsis
- Remembering Dr. Jack Brown
- FDA Drug Approval: Treatment for Levodopa-Induced Dyskinesia (LID)
- #NYSACCP Annual Meeting and Twitter!
- Student Spotlight: Michelle Ubowski
- WSoP Student Chapter Synopsis



Save the Date: Deadline to register for the ACCP Clinical Research Challenge: February 7th, 2018



ACCP's Annual Meeting Synopsis

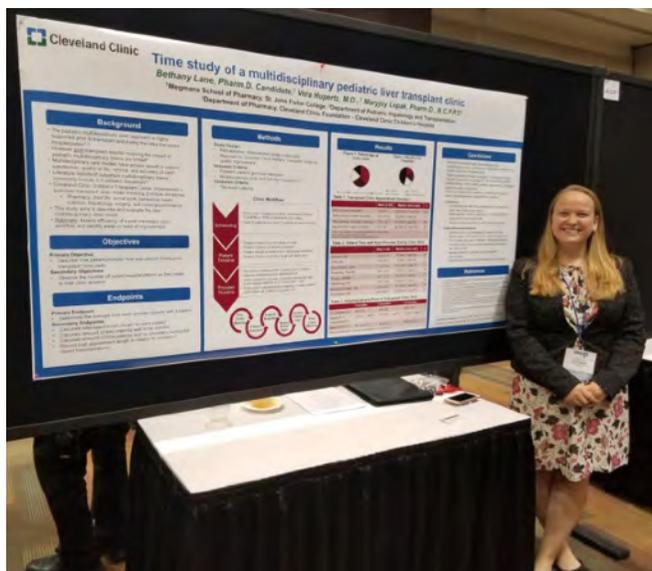
The 2017 Annual ACCP meeting took place from October 7th – 10th amongst sandy desserts and blazing sunsets in the heart of downtown Phoenix, Arizona. Festivities kicked off on Saturday with a keynote speech from Summerpal Kahlon, MD, who focused on the use of big data for team-based, patient-centered health care. Some highlights from the meeting included the ACCP Awards and Recognition Ceremony that honored outstanding educators in the field of pharmacy and practitioners with extensive contributions to the health of patients and the practice of clinical pharmacy. Student pharmacists were able to attend ACCP's well respected "Emerge from the Crowd" presentation that focused on guiding students on becoming standout pharmacy residency candidates.



Wegmans School of Pharmacy Students Bethany Lane, Nick Polito and Michelle Ubowski pictured at the 2017 ACCP Annual Meeting.

The program included interactive sessions on successfully tackling interview questions, navigating the application process, and letter of intent writing. It concluded with a roundtable session featuring current PGY1 and PGY2 pharmacy residents. In terms of practice updates, each ACCP practice and research network (PRN) offered focused talks in their practice areas, emphasizing best practice and cutting edge developments. For example, the Pharmaceutical Industry PRN offered an educational session on how pharmacists can help patients overcome the barriers of medication costs, while the Immunology/ Transplantation PRN hosted a debate on antibody-mediated rejection.

St. John Fisher College's Wegmans School of Pharmacy (WSoP) had both student and faculty representation, including P3 students Bethany Lane (ACCP student chapter President) and Michelle Ubowski (ACCP student chapter Volunteer Chair), who both received ACCP-funded travel awards, as well as P4 student Nick Polito.



Bethany Lane and "A Time Study of a Multidisciplinary Pediatric Liver Transplant Clinic" at the 2017 ACCP Annual Meeting.

Bethany presented a research poster tentitled "A Time Study of a Multidisciplinary Pediatric Liver Transplant Clinic" and Nick presented a research poster entitled "Vitamin K Route and Dose on Rate of Warfarin Reversal".

Faculty from WSoP presented posters as well, including Drs. Kathryn Connor and Lisa Avery. The conference was an overall success with ample opportunities for education, networking, and celebrating the practice the pharmacy.

- Michelle Ubowski, PharmD Candidate: WSoP Class of 2019, WSoP ACCP Volunteer Chair

Remembering Dr. Jack Brown

Dr. Jack Brown, Associate Professor and Chair of the WSoP Department of Pharmacy Practice and Administration, passed away suddenly on November 2nd, 2017. Brown was an Infectious Diseases-trained researcher and a prolific author. He joined the faculty of WSoP in 2013 after serving as an Associate Professor of Pharmacy, Medicine, and Public Health at University at Buffalo (UB). Brown was a Fellow of ACCP and was named ACCP's New York State Researcher of the Year in 2012, among many other professional accomplishments. Alyssa Romaine, a WSoP student and a former student at the University of Buffalo, looks back on her time with Dr. Brown and discusses the influence he had on her educationally and personally:



“Today I would like to pay tribute to a dear friend and a mentor of mine, Dr. Jack Brown. Over the years, Dr. Brown taught me to have faith in myself and always push forward despite any hurdles I might face in life.

I first met Dr. Brown in 2010 when I was looking for colleges to attend for my undergraduate pharmacy coursework. Even when I first met him, he was more than willing to answer any questions I had about schools and pharmacy in general. After much thought and consideration, I decided to attend the University at Buffalo, which happened to be where Dr. Brown taught at the time. During my next four years, Dr. Brown would be a vital part to my success.

During my time at UB I encountered many typical undergraduate road blocks. One of my most memorable meetings with Dr. Brown was when I visited his office extremely upset about an undesirable grade. Dr. Brown took everything in stride and helped me come up with a plan for success and what I needed to do if I wanted to continue on to pharmacy school. Someone wise once told me that every child is one caring adult away from being a success story. During this time in my life, Dr. Brown was that caring adult I needed, and I know I am not the only student he helped.

Dr. Brown and I always joked about how I followed him from UB to St. John Fisher College. He was always someone you could joke with, and he was often the one to provide a well-needed laugh at school. As I am sure many other students can relate, we always knew when Dr. Brown was teaching our class because he would always play Guns 'n Roses, or other 80's hits until class started. It's little memories such as these that will always give me a smile when I think of him down the road.

Dr. Brown was passionate about the school and the pharmacy career, but most of all about his friends, family, and students. I know personally how hard Dr. Brown advocated for not only me, but for every student and faculty member. Dr. Brown was loved by most and will be dearly missed. He touched so many lives during his time with us in the Fisher family. Because of Dr. Brown I will continue to push myself for greatness, work hard, but never take myself too seriously and remember to have fun and laugh often. His humor, kindness, and selflessness will continue to forever inspire those of us who were so fortunate to know him.”

- Alyssa Romaine, PharmD Candidate: WSoP Class of 2019

FDA Approves First Dedicated Treatment for Levodopa-Induced Dyskinesia (LID)

Introduction

In August 2017, the FDA approved the first dedicated treatment for levodopa-induced dyskinesia (LID) in Parkinson's disease (PD) patients. Adamas Pharmaceuticals, Inc. has developed an extended-release formulation of amantadine specifically designed to optimize its pharmacokinetics to reduce side effects and improve efficacy in treatment of dyskinesia. Approval was based on the EASE LID and EASE LID 3 trials.



Background

It is a universally accepted fact that levodopa is the most effective treatment for PD on the market, and that while it may not be first-line treatment in all cases, all patients with a PD diagnosis will eventually be on this medication. Over time, patients are prone to developing dyskinesias as a side effect to levodopa therapy; the incidence rate has been reported between 9% and 30%.¹ This wide range is due to the fact that the risk for LID has much to do with patient specific factors such as age, levodopa dose, duration of therapy, or severity of disease; younger patients using levodopa are specifically at a higher risk for developing dyskinesias.¹ The development of LID may not be bothersome to the patient in the beginning, but as the disease progresses and the dose of levodopa needed to control symptoms increases, dyskinesias worsen. Severe LID decreases the patient's quality of life, increases burden of care and associated healthcare costs, and can lead to secondary health issues such as fatigue, depression, pain, physical limitation, and weight loss caused by excessive movements.¹ Managing this side effect is important in maintaining quality of life and treatment efficacy, especially in patients with multiple risk factors for LID or for those who have progressed significantly in their disease.

EASE LID and EASE LID 3 Trials

EASE LID and EASE LID 3 are randomized, double-blind, placebo-controlled Phase 3 trials comparing GOCOVRI, an extended-release formulation of amantadine, to placebo in the treatment of LID, and conducted over 25 and 13 weeks respectively.^{2,3} The primary endpoint was a change in the Unified Dyskinesia Rating Scale (UDysRS) from baseline, and the two key secondary endpoints were a change in ON time without troublesome dyskinesia from baseline and a change in OFF time from baseline.^{2,3} Patients in these trials had been diagnosed for around ten years, treated with levodopa for eight years, experienced LID for four of those years, and the average UDysRS score was around 40 (total possible score on the UDysRS is 104; a score of 40 represents moderate dyskinesia).^{2,3} Statistical analyses for the primary endpoint and key secondary endpoints are presented in Table 1. These trials found that an extended-release formulation of amantadine not only reduced the UDysRS score, meaning that it provided the patient relief from LID, but that ON time without dyskinesia was increased by around four hours a day and OFF time was reduced by around half an hour; results for all three endpoints were found to be statistically significant.^{2,3}

Table 1. Primary and secondary endpoints of EASE LID and EASE LID 3 trials^{2,3}

mITT Population		EASE LID		EASE LID 3	
		Placebo (N=58)	GOCOVRI (N=63)	Placebo (N=38)	GOCOVRI (N=37)
UDysRS Score, LS Mean (SE)	Change from Baseline	-8.0 (1.64)	-15.9 (1.62)	-6.3 (2.08)	-20.7 (2.20)
	P-Value	0.0009		<0.0001	
ON Time w/o Dyskinesia, LS Mean (SE)	Change from Baseline	0.8 (0.43)	3.6 (0.43)	2.1 (0.53)	4.0 (0.56)
	P-Value	<0.0001		0.0168	
OFF Time, LS Mean (SE)	Change from Baseline	0.3 (0.26)	-0.6 (0.27)	0.6 (0.31)	-0.5 (0.34)
	P-Value	0.0171		0.0199	

GOCOVRI (amantadine) Extended Release Capsules

GOCOVRI is expected to come to market in early 2018, and, according to a presentation provided to investors by the manufacturer, will cost \$28,500 per year.⁴ It will be available in two strengths, a 68.5 mg capsule and a 137 mg capsule.⁵ GOCOVRI is administered once daily at bedtime.⁵ The most common side effects reported during clinical trials were hallucinations, dizziness, dry mouth, peripheral edema, constipation, falls, and orthostatic hypotension.⁵ Note that immediate-release amantadine can cause sleep disturbances, and this unique extended-release formulation given at bedtime reduces the likelihood of that particular side effect. Giving GOCOVRI at night ensures low levels when the patient is sleeping, either improving or maintaining the patient's quality of sleep, and higher levels during the day when the patient requires effective management of LID. GOCOVRI was approved with orphan drug designation, and is indicated specifically for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications.⁵ Adamas Pharmaceuticals has trials in progress for additional indications for GOCOVRI.⁴

Place in Therapy

Immediate-release amantadine is used in practice to manage LID, but studies have shown that patients can develop a tolerance anywhere from three to eight months after initiation, and thus the initial benefit in managing dyskinesia wears off.⁶ Currently, there is an ongoing open-label safety study (EASE LID 2) to monitor patients taking GOCOVRI for up to two years; interim results show that patients are maintaining

benefit at 88 weeks.⁷ While only time will tell regarding tolerance and GOCOVRI, these preliminary findings certainly seem to point to a definite improvement over the immediate-release product.

At this time, there are no head-to-head trials comparing GOCOVRI to immediate-release amantadine. A 2013 study that reviewed several different dyskinesia scales and rated each on their ability to detect treatment response in patients taking immediate-release amantadine found that the UDysRS scale was superior to others.⁸ In addition, the authors reported that the immediate-release formulation provided an average reduction of 6.6 points in the UDysRS score.⁸ In the EASE LID and EASE LID 3 trials, the UDysRS score was reduced by anywhere from 15 to 20 points; it could be inferred that GOCOVRI does a better job at alleviating LID, but a direct comparison will be necessary to definitively say what role GOCOVRI will play.^{2,3}

LID has a substantial impact on the patient's quality of life and severely limits their ability to complete any activities of daily living. Unfortunately, this is a constraint on gold standard levodopa therapy. GOCOVRI, being the first and only therapy specifically indicated for the management of levodopa-induced dyskinesia, provides a much needed solution for clinicians struggling to effectively maintain ON time and mitigate dyskinesia caused by levodopa.

-MARIAH HALEY, PHARMD CANDIDATE: WSoP CLASS OF 2019, WSoP ACCP SECRETARY

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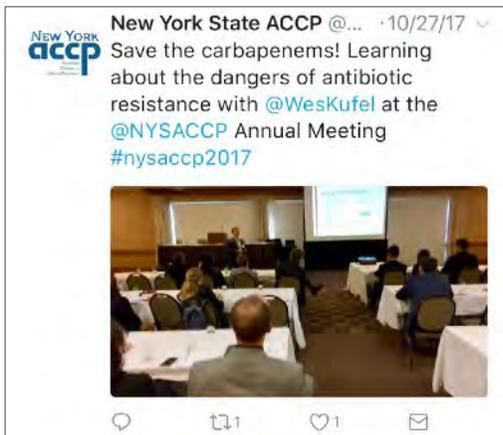
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New York State ACCP Annual Meeting & Twitter: Making Connections

Did you know that NYS ACCP has a Twitter account? As of December 2017, NYS ACCP (@NYSACCP) only has 36 Twitter followers. The biography of the Twitter account reads, “Working to provide innovation in clinical pharmacy practice, research, and education to improve drug therapy outcomes in New York State”, and I believe this step forward for our social media presence does exactly that. Twitter is an online social media platform that just about everyone is familiar with. Easy to navigate and physically eye-catching, this social media platform has given NYS ACCP the tools to further opportunities for networking and education for students, residents, and pharmacists alike.

On October 27th, 2017 the NYS ACCP Annual meeting took place in Syracuse, New York. While many people were fortunate enough to attend this meeting to network and further educate themselves in the realms of clinical practice, there were also many who were unable to attend the meeting. With this being said, NYS ACCP’s Twitter account stepped up to the plate to keep us all updated on the events and programs occurring at the annual meeting.

Those who attended could connect by tagging @NYSACCP, @ACCP and hash tagging #NYSACCP2017 in their tweets! While networking in a professional setting, such as the PRNs, is very important, Twitter serves as a lighter way to share with those that are already associated with ACCP.



The NYS ACCP account was able to give insight on the types of programming they provided by tweeting out pictures and short descriptions tagging the presenters and their institutions in their tweets during the event! These short little synopses of the programs potentially could entice those who were unable to attend this year to get ahold of the presenter’s slides to educate themselves on their own, or to even attend next years event!

Twitter also has a feature enabled by the software Periscope that allows users to stream live videos directly from their mobile devices. This feature allowed NYS ACCP to showcase some of their residents and the research and work that they’ve dedicated themselves to during their program. This feature truly connected those who were unable to attend the event to those who were! Being able to stay involved in professional events such as the NYS ACCP Annual meeting is incredibly important and I believe that Twitter will further enable more students, residents, and pharmacist to do so. If you have a Twitter account log on and follow @NYSACCP to get connected!

-Hanna Case, PharmD Candidate, WSoP Class of 2021, WSoP ACCP P1 Representative

Student Spotlight: Michelle Ubowski



What interested you in clinical pharmacy?

- I was drawn to the field of Clinical Pharmacy because I feel that you have more freedom in this field to be the best pharmacist you can be. I wanted to be on the front lines, practicing *prospective* medicine. I did not want to encounter the problem *after* the prescription had already been written--I wanted to be side-by-side with clinicians, helping to facilitate patient-centered, high quality care by getting it right in the beginning. Likewise, now my career path is a little more developed--I want to venture into the pharmaceutical industry, specifically in the research and development phase of medications, where I think that clinical knowledge is key to developing drugs that meet those patient-centered goals.

What encouraged you to join ACCP and how has ACCP been important in your professional development?

- I was drawn to ACCP because of the practice and research networks (PRN). I was thrilled to find out that ACCP has a pharmaceutical industry PRN that has allowed me to stay current on topics important to the industry. The Annual ACCP Meeting this past year in Phoenix, AZ, was huge in my professional development--I made a great number of contacts, and was offered invaluable insight into how to achieve my professional goals. I have a very focused interest in the field of pharmacogenomics, and the ACCP Annual meeting offered educational and networking opportunities in this unique field.

What inspired you to take on the exciting journey of research as a pharmacy student?

- I've always loved research. My undergraduate degree was in Molecular Biosciences and Biotechnology, where I spent many years working on a research project. Honestly, I thought I was going to have to give up research in pharmacy school. I was thrilled to find out that is absolutely not the case. Research is exciting because you have to think in creative and out of the box ways to even start trying to answer the question that *you* care about. And that's probably the best thing about it--you make new discoveries, and make a difference about something that you are interested in, and then you get to share that information to help improve patient care.

As a student, how are you balancing school, research, and preparing for residency or a fellowship?

- I plan to apply for fellowship programs in industry during my P4 year, the process of which is very similar to residency preparation. I think it's important to remember that prioritizing school and research is already helping you to prepare for residency, or whatever post-graduate training you may pursue. I try not to think of them as separate areas, but one whole integrated chunk of my life. Find something you are passionate about for research and it won't feel like a chore. I look forward to what I do. My research and what I do in school complement one another. As far as the preparing goes, one thing I found that goes a long way is updating your CV frequently. You will forget your successes as you have more of them. Documenting them on the go is crucial for having them all prepared when you are applying for post-graduate training.

How would you describe your ideal practice site?

- Ideally, I see my fellowship preparing me for a role at a company that uses pharmacogenomics and personalized medicine in the drug development process to approve drugs that are targeted for specific patient populations, improving the outcomes for those patients while decreasing adverse events in the wrong patient populations. I want a flexible, accepting work culture that is not afraid to listen to new ideas. Healthcare is constantly evolving and I want a dynamic work place that evolves with it.

If you could go back and tell P1 Michelle any piece of advice, what would it be?

- I would tell P1 Michelle to maintain balance. As important as school, research, extracurriculars and all that jazz are, your well-being is important, too. It is okay to take a day off every once in awhile to re-balance yourself. Don't let yourself burn out. Remember that the career you have chosen should complement you, not consume you.

- Interviewed by Hanna Case, PharmD Candidate, WSoP Class of 2021, WSoP ACCP P1

Representative

Wegmans School of Pharmacy ACCP Student Chapter Highlights

The ACCP student chapter at WSoP was founded in 2014 by faculty advisor Dr. Kathryn Connor. The WSoP chapter has aimed to expose students to different fields of pharmacy not typically discussed in didactic coursework. During the Spring 2016 and Fall 2017 semester, ACCP was able to bring in speakers from different pharmacy specialties to educate students in possible career paths and residency options. Dr. Eric Kanouse and the emergency medicine residents from the University of Rochester Medical Center explained the various aspects of emergency medicine and Dr. James Tsay discussed his experience working as an operating room pharmacist. The speakers also gave advice on available residency paths to obtain a job in their respective fields.

The WSoP chapter of ACCP offers the opportunity to participate in a mentorship program through the University of Rochester Medical Center where students may partner with a clinical specialist to shadow at their practice site to gain an understanding of the different specialties. The specialties available to shadow include emergency medicine, oncology, bone marrow transplant, toxicology, and many others.

The WSoP chapter of ACCP also offers various learning opportunities for students to participate in, including the ACCP Clinical Research and Clinical Pharmacy Challenges. The Clinical Pharmacy Challenge was held in the Spring of 2017 with numerous student teams participating. The local winners, Nicole Delello, Caleb McCaig, and Nick Polito were entered into the national competition. The local Clinical Research Challenge, held this Fall 2017 semester, had many teams composed of our first year pharmacy students. The local challenge winners, Morgan Marriott, Michelle Brown, and Michael Sellars, will continue on to compete in the national competition in February 2018.

There are various volunteer activities for students to participate in including events at the Gilda's Club of Rochester. Upcoming volunteer events include partnering with other student organizations to provide counseling and blood pressure screenings during the Rochester Marathon Expo weekend and organ donor sign ups. WSoP also works to increase student involvement with a volleyball tournament for pharmacy students and a student mixer event in conjunction with other pharmacy schools in Upstate New York.

-Bethany Lane, PharmD Candidate; WSoP Class of 2019, WSoP ACCP President



Questions or contributions?
Please contact: Amanda Engle, PharmD NYS ACCP Secretary/Treasurer

President: William Eggleston, PharmD, DABAT; Clinical Assistant Professor, Binghamton University, School of Pharmacy & Pharmaceutical Sciences; wegglest@binghamton.edu

President Elect: Amanda McFee Winans, PharmD, BCPS, CACP; Clinical Pharmacy Specialist, Bassett Healthcare Network; Amanda.Winans@bassett.org

Past President: Travis Dick, PharmD, MBA, BCPS; Associate Director of Pharmacy, Clinical Services, Director, PGY1 Pharmacy Residency Program, University of Rochester Medical Center-Strong Memorial Hospital; Travis_Dick@URMC.Rochester.edu

Secretary/Treasurer: Amanda Engle, PharmD, BCPS, Clinical Pharmacy Specialist, Bassett Medical Center; Amanda.Engle@bassett.org

Technology Director/Website Administrator: Roberta Schnur, RPh; robertaschnurnyc@cs.com