



Washington Metropolitan Society of Health System Pharmacists Newsletter

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Message from the WMSHP President

The COVID pandemic situation appears to be getting better. More people are getting vaccinated. The [CDC guidance](#) is now advising that fully vaccinated people are no longer required to wear masks and practice social distancing. We all are cautiously optimistic that we can start organizing in-person social gatherings for our society as well. Soon some could refer to times as 2020 BC and 2020 AC in reference to “before COVID” and “after COVID” times respectively.

With that said, WMSHP is offering the following virtual CE opportunity for July 2021:

On July 29th at 6 pm WMSHP will be hosting a virtual ACPE seminar on “**Workforce Well-Being and Resilience: Lessons Learned in Turbulent Times.**” Please see the article in this issue by our speaker Dr. Christina Martin of NIH.

You may have noticed the WMSHP newsletter has easy and economical advertising opportunities for local businesses. You can find advertisement information on the last page of this newsletter. Please spread the word to your business friends and families so that we can do our part to help our community in whatever way we can.

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July 29th WMSHP Seminar with NIH speaker on Workforce Well-Being.

On July 29th WMSHP will be hosting a virtual ACPE seminar on “**Workforce Well-Being and Resilience: Lessons Learned in Turbulent Times.**” Please reserve your calendar for this 6 pm one hour CE event. Additional information on registration will be sent closer to the seminar date.

The conversation on clinician burnout as a public health problem continues to gain momentum, especially in the past year as caregivers expanded and extended their caregiving responsibilities amid the global pandemic. We know that burnout impacts patient care and disrupts the workforce, both at the individual level and at the organizational level. When it comes to self-care, leaders need to manage themselves, their teams, and their patients. Wouldn't you love to learn techniques to enhance the well-being of yourself and your team so that you can be a healthier advocate for your patients? This activity will briefly describe the issue, summarize work advanced by the National Academy of Medicine (NAM) Action Collaborative, and identify strategies to address pharmacy workforce well-being at the individual and organizational levels.

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Learning objectives will include the following:

- Describe why clinician burnout is a patient care and healthcare workforce problem.
- List actions taken and planned by the NAM Action Collaboration on Clinician Well-Being and Resilience.
- Identify strategies to improve well-being and resilience to the pharmacy workforce.

Our speaker will be Dr. Christina Martin who currently serves as a Section Chief, IV Admixture Unit (IVAU) at the NIH Clinical Center. Dr. Martin received her Doctor of Pharmacy from the University of Pittsburgh and completed a combined PGY1/PGY2 Health-System Pharmacy Administration residency at the University of Kansas Hospital. She also holds a Master of Science degree in Pharmacy Practice from the University of Kansas. Past professional roles have included inpatient sterile products manager with Reading Health System (Reading, PA) and ambulatory pharmacy supervisor with Lancaster General Health (Lancaster, PA). She most recently served as Director, Office of Member Relations at ASHP (American Society of Health-System Pharmacists), and since 2017, has served as a pharmacy liaison to the National Academy of Medicine Action Collaborative on Clinician Well-Being and Resilience.

Outside of pharmacy, Dr. Martin is a certified hot yoga instructor and enjoys homebrewing with her husband and their dogs, Barley & Hops.



July 29th speaker Dr. Christina Martin Section Chief, IV Admixture Unit (IVAU) at the National Institute of Health Clinical Center



Author: Melody Fakhrzadeh, PharmD
PGY1 Pharmacy Practice Resident, Sibley Memorial Hospital –
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Chemotherapeutic Agents Causing Vesicant-Like Reactions upon Extravasation or Infiltration

By Melody Fakhrzadeh, PharmD

Vesicant drugs have the capability to induce the formation of blisters and/or cause tissue destruction. Irritant drugs can cause pain at the injection site or along the vein, with or without an inflammatory reaction. Some of these agents have the potential to cause soft tissue ulcers only if a large amount of concentrated drug solution is inadvertently extravasated.¹ Vesicant drugs include dactinomycin, daunorubicin, doxorubicin, epirubicin, idarubicin, mechlorethamine, mitomycin, vinblastine, vincristine, and vinorelbine

Docetaxel and paclitaxel are taxanes that are classified as non-DNA binding drugs that are irritants with vesicant-like properties. Docetaxel, formulated with polysorbate 80 in a hydroalcoholic formulation, is infused over one hour when given at standard doses at a concentration of 0.30–0.74 mg/mL.² The incidence of infusion-site reactions, including extravasation, is <1% and cases are generally mild. Paclitaxel can cause tissue damage, including blistering following extravasation. See page 3

Chemotherapeutic Agents from page 2

. In a review of 32 case reports from various institutions of paclitaxel extravasation, it was reported that 9% of cases ($n=3$) received paclitaxel by central venous catheter administration and 91% ($n=29$) by peripheral intravenous (IV) administration. Of those receiving paclitaxel via peripheral infusion, two of these patients required surgical intervention of their extravasation. The albumin-bound paclitaxel product, Abraxane[®], was reported to cause tissue injury and necrosis following extravasation (<1% incidence).²

Cisplatin is reported as a vesicant if more than 20 ml of 0.5 mg/ml concentration is extravasated.³ Oxaliplatin can induce severe necrosis of underlying muscles following peripheral infusion, as demonstrated in a case report of a 52-year old woman.² Research by Chang A et al, suggests that vesicant-like reactions related to mitoxantrone are dose-dependent. In one case report, mitoxantrone was administered to a 76-year old man through a peripheral 22-gauge IV at a dose of 12 mg/m² over 30 minutes and resulted in blistering and extravasation that required skin-grafting. The manufacturer (Immunex) has not classified mitoxantrone as a vesicant agent, however it was noted that extravasation can cause tissue necrosis.⁴

In a multicenter study conducted between 2011-2015 by the Cancer Centers Consortium Nursing-Sensitive Indicators Consensus Group (C2NSI), intravenous chemotherapy vesicant and irritant administration data was evaluated to determine extravasation events in adult cancer patients.⁵ A total of 739,812 IV chemotherapy doses were administered peripherally or via a central line. Extravasation with associated harm was classified into two levels in the study. A level 2 extravasation event was one that resulted in temporary or minor harm, including swelling, skin discoloration, burning, or loss of blood return.⁵ A level 3 extravasation was defined as an event resulting in any injury requiring an increased level of care including receipt of an antidote, topical or systemic antibiotic, and/or referral for consultation with plastics and reconstructive surgery.⁵

Irritants with vesicant-like properties were defined by incidence (listed in decreasing incidence) as follows:⁵

- carmustine (6/1000 doses)
- docetaxel (2.1/1000 doses)
- etoposide (2.1/1000 doses)
- mitoxantrone (1.6/1000 doses)
- paclitaxel (1.3/1000 doses),
- dacarbazine (1.2/1000 doses)
- liposomal doxorubicin (1/1000 doses)
- cisplatin (0.6/1000 doses)
- gemcitabine (0.5/1000 doses)
- Albumin-bound paclitaxel (0.4/1000 doses)
- bortezomib (0/1000 doses)
- melphalan (0/1000 doses)
- oxaliplatin (0.5/1000 doses)
- streptozocin (0/1000 doses)

Docetaxel, etoposide, and paclitaxel, accounted for 33.8% of the doses ($n=250,245$) and accounted for 59.3% of the level 2 and 3 extravasation events ($n=399$). The majority (98%) of the extravasation events ($n=392$) occurred with peripheral IV access with these agents.⁵

The data regarding extravasations that occur via peripheral versus central venous catheter routes have led to the recommendation for increased use of central venous access for vesicant or irritant administration by *The Journal of Clinical Oncology Nursing*.⁵ In addition, careful patient assessment for risk of peripheral venous extravasation is also recommended. Administration of vesicant agents should be carried out through a central line whenever possible, especially if continuous infusion is required.⁵

See page 4 for references

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My Interest in Pharmacy and Passion to Serve

By Jessica Nwabuoku

My interest in pharmacy stems from the experiences I obtained at CVS Pharmacy as a Pharmacy Technician. I quickly learned that many patients have hypertension and diabetes in the United States. My goal became to aid patients in medication adherence that is essential to lower their comorbidities and lead them to better health.

Since starting my career at the Howard University College of Pharmacy (HUCOP), it has been my sole priority to serve my community in any way that I can. I have sought to be proactive in organizations and seek leadership positions to make a big difference in the school and impact the lives of people in the community. I am privileged to now apply my clinical knowledge and experience to lead patients to better health.

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Jessica Nwabuoku is part of the Howard University College of Pharmacy class of 2023 (a current P2 student).



During my time at Howard, I have been active in the Student National Pharmaceutical Association and the American Pharmacists Association serving the underprivileged community. I have had the opportunity to spearhead a multidisciplinary health fair with pharmacy, dental, and medical students to promote the importance of medication adherence. In the *Script Your Future* national HUCOP challenge last year, I educated patients about hypertension and heart disease management and further assisted my peers in blood pressure screenings. Pill boxes, "I adhere" cards, and Good RX discount cards were distributed to help ensure that patients adhered to their medications. As a result, nearly 1,000 medication adherence resources were distributed to the District of Columbia community.

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It is because of this community service initiative that Howard University received the “Script Your Future” Rookie Award.

I actively volunteer with the Student National Pharmaceutical Association and Distant Relatives for their monthly “Feeding the Relatives” health fair to conduct blood pressure screenings and diabetes risk assessments, and distribute informational resources to patients encouraging them to maintain a low sodium and glucose diet. This experience has been so rewarding because the residents of D.C are always so grateful and appreciative of the services they are given. The ability to give back to people and selflessly serve will also be my priority.

In the midst of a global pandemic, I have been honored to partake in administering COVID-19 vaccinations at the Howard College of Medicine COVID-19 clinic. In collaboration with health professionals and pharmacy, medical, nursing, and dental students, we met our goal of vaccinating 1000 residents. I aim to continue to administer vaccines to as many people as I can and educate patients on the importance of vaccinations despite the misconceptions. I hope to play a big part in helping to address the vaccination hesitancy of residents in the community.

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The opportunity to serve others gives me so much fulfillment. The joy of those being served in the community is my main motivation to keep serving and helping others. As a future pharmacist, my aim is to provide patient-centered care to all patients to make them feel appreciated, which will improve medication adherence and improve the health of patients in the community.







From President message page 1

I hope to see most of you in our next virtual CE programs. Don't forget to get your FREE COVID-19 vaccination(s) as well as renew your annual membership to get most value for your money. Please refer to the WMSHP website for information (www.wmshp.org).

Sincerely,

Ashok Ramalingam. RPh, MS, PhD, DPharm, CPPS.
President, Washington Metropolitan Society of Health-System Pharmacists.



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