JANUARY, 2025 VOL. XIII, ISSUE 1

# PHARMFACTS BULLETIN

*The latest news and updates from The Christ Hospital Pharmacy Department*

**IN THIS ISSUE:**





## P&T Updates

*Savannah Reuss, PharmD, PGY1 Pharmacy Resident*

Formulary Updates as of December 31st, 2024

- A change to **belatacept's** restriction: restricted to one pre-op dose inpatient with subsequent doses administered in an outpatient setting according to payer approval or evidence-based use for CMS. This allows CMS patients to stay in network to receive their doses.
- **Retacrit (epoetin alfa)** is now the preferred formulary ESA. Procrit (epoetin alfa) is available outpatient when payers prefer this product.
- **Releuko** (filgrastim-ayow) is now the preferred formulary filgrastim biosimilar.
- **Elrexfio** (Elranatamab-bcmm), a bispecific T-cell engager, has been added to formulary, non-stock, restricted to hematology/oncology use.
- **Tecentriq Hybreza** (atezolizumab/hyaluronidase) has been added to formulary, non-stock, restricted to outpatient use.
- **Magic mouthwash** kits are no longer commercially available - inpatient use is discontinued.
- Updates to therapeutic interchanges include dispensing **Spiriva Respimat (tiotropium)** when Incruse Ellipta (umeclidinium) is ordered, and dispensing **Anoro Ellipta (umeclidinium/vilanterol)** when either Bevespi Aerosphere (glycopyrrolate/formoterol) or Stiolto Respimat (tiotropium/olodaterol) are ordered.
- **Diphenoxylate/atropine liquid** is no longer manufactured, and there is limited use of **oxymorphone 30mg ER tablets**, so they have both been removed from formulary.
- **IV tacrolimus** is now restricted to ordering by nephrology or transplant providers due to recent medication errors. It will continue to be limited to administration only in the ICU.
- **Famotidine oral solution 40mg/5mL** has been added to formulary restricted to use in neonates only.
- **Topical morphine** is now restricted to ordering by palliative care providers due to ordering prior to exhausting other options.


*****Attention Providers*****
**Reading the PharmFacts Bulletin can be used to earn CME! Just complete the CME quiz on the last page of the issue, submit the quiz as directed, and score a passing grade to earn CME.**

# Spotlight: Pharmacy Compounding Laws

## Ambulatory Care: Pharmacy Compounding Laws *Garrett Lambert, PharmD, BCACP; Jennifer Wick, PharmD, BCACP*

The FDA defines compounding as "a practice in which a pharmacist, physician, or person under the supervision of a licensed pharmacist combines, mixes, or alters ingredients of a drug to create a medication tailored to the needs of an individual patient."[1] Compounding most commonly occurs in a pharmacy, but it can also be completed at other locations, such as in a physician's office or an outsourcing facility.[1]

Medication compounding has been under more scrutiny recently due to the increase in advertised online compounding services, especially those related to the glucagon-like peptide-1 (GLP-1) class of medications. There are two main laws that apply to medication compounding: the Federal Food, Drug and Cosmetic Act (FD&C Act) and the 2013 Drug Quality and Security Act (DQSA).[2] Compounding at a pharmacy or physician's office falls under section 503A of the FD&C Act whereas compounding at an outsourcing facility is regulated by section 503B of the FD&C Act, which was updated in 2013 with by the DQSA.[3] 503A compounding must be specific to a prescription for a patient.[3] 503B compounding at an outsourcing facility involves many compounded medications from one central location that may or may not be specific to a patient prescription. Outsourcing facilities make larger amounts of compounded medications and are therefore subject to more stringent good manufacturing practices.[4,5]

Compounded medications are **not** approved by the FDA, but they can play a valuable role in patient care. When patients require a prescription product that is not commercially available, compounding serves as a pathway to ensure appropriate patient care. There are situations when compounding may be necessary including:

- Patient has an allergy to a component of the commercially available product
- Patient cannot swallow and needs the medication capsules/tablets turned into a liquid
- Patient needs a strength that is not commercially available (i.e. 3mg/mL when only 10mg/mL is available)
- Patient requires a medication that is currently on shortage, but bulk ingredient is available
    - The legality of this is based upon the FDA's drug shortages list[6]

However, compounding must be done by an experienced provider and with appropriate patient counseling to provide a high level of patient safety. Recently, the FDA issued a compounding risk alert regarding semaglutide products.[7] Several patients were hospitalized because of misdosed semaglutide[7] due to both patient unfamiliarity with self-injection using and syringe and prescriber unfamiliarity with prescribing nonstandard concentrations of the drug.

Additionally, compounding commercially available products, like GLP injectables, may not be a long-term solution to high prescription costs. As highlighted above, the legality of compounding commercially available products is largely based on their inclusion on the FDA drug shortage list. Recently, the FDA has begun removing GLP products from the shortage list as manufacturers have increased capacity. This resulted in both a lawsuit against the FDA from a compounding facility and their representative trade association and lawsuits against several compounding facilities from the drug manufacturers.[8,9] Litigation is ongoing but should be closely watched for provider practice implications.

**References**: 1. U.S. Food and Drug Administration. (2024, October 8). Human Drug Compounding [Webpage]. 2. U.S. Food and Drug Administration. (2020, September 10). Compounding Laws and Policies [Webpage]. 3. U.S. Food and Drug Administration. (2021, August 13). FD&C Act Provisions that Apply to Human Drug Compounding [Webpage]. 4. U.S. Food and Drug Administration. (2022, March 29). Information for Outsourcing Facilities [Webpage]. 5. Center for Drug Evaluation and Research Outsourcing Facility Information. U.S. Food and Drug Administration. September 2017. Accessed 2024, November 15. 6. U.S. Food and Drug Administration. (2024, October 11). Compounding when Drugs are on FDA's Drug Shortages List [Webpage]. 7. U.S. Food and Drug Administration. (2024, July 26). FDA alerts health care providers, compounders and patients of dosing errors associated with compounded injectable semaglutide products [Press release]. 8. NovoNordisk. (2023, November 29). Novo Nordisk takes additional legal actions to help protect US patients from potentially unsafe and ineffective compounded drugs claiming to contain semaglutide that are not FDA approved [Press release]. 9. U.S. Food and Drug Administration. (2024, October 22). FDA clarifies policies for compounders as national GLP-1 supply begins to stabilize [Press release].

**POP QUIZ TIME!**

Which of these people are **NOT** legally able to compound medications?

A. A physician
B. A pharmacist in a community pharmacy
C. A PA at a physician's office with no pharmacist on-site
D. A pharmacy technician in an outpatient pharmacy

Answer: C. A PA at a physician's office with no pharmacist on-site

# Clinical Pearls

## Critical Care: Valproic Acid and Phenytoin Drug Monitoring *Megan Phelps, PharmD, BCCCP*

Valproic acid (VPA) and phenytoin/fosphenytoin (PHT) are common antiseizure medications with narrow safety and efficacy windows. Both agents are prone to pharmacokinetic (PK) derangements (Table 1) which necessitate drug monitoring. Alterations in protein binding is one of the most critical PK factors affecting VPA and PHT since these result in changes in free fraction of drug. Patients at risk for changes in protein binding are patients with advanced age, multiple comorbidities, and critical illnesses. Additionally, factors associated with higher free fractions of VPA and PHT include uremia, hypoalbuminemia, lipid administration (intralipid, propofol, clevidipine), and competing medications (aspirin and ibuprofen).

The challenge with changes in protein binding is accurate interpretation of free and total serum levels. Numerous studies, primarily in the ICU, report significant discordance between free and total VPA and PHT levels. Despite this, free drug levels are not standard of care and often require significant processing time. In addition, researchers to date have not identified an accurate corrective formula to adjust total levels for the multitude of factors mentioned above.

The timing and type of drug level ordered are critical. In general, levels should be ordered as troughs and at steady state (after 3-5 days). In the setting of active seizures or status epilepticus, post-load 2-hour random levels and pre-steady state troughs within 24 hours are warranted. Note that *therapeutic* ranges differ from the *reference* ranges listed in most electronic medical systems. Reference ranges serve as general safety targets and include goals for many indications. Therapeutic VPA and PHT levels are provided below (Table 2). In patients with risk factors for altered protein binding, free VPA and PHT levels should be used to guide treatment. It is not uncommon for patients to have therapeutic *total* levels and supratherapeutic *free* levels. Free levels should be used in active seizures, status epilepticus or suspected toxicities.

Finally, free VPA and PHT levels are send out labs at TCH and take 3-5 days to result. Clinicians should order both total and free levels concurrently, obtained at the same time so levels may be correlated, and dosing adjusted retrospectively if needed. Clinicians should correct total PHT levels for hypoalbuminemia using the Winter-Tozer formula below while waiting for free levels to result. There are no supported correction formulas for VPA levels, although many have been studied.

***Phenytoin correction for hypoalbuminemia = Concentration measured / (0.25 x Albumin) + 0.1***

**Table 1.** Common pharmacokinetic changes affecting valproic acid (VPA) and phenytoin (PHT).

| Pharmacokinetic Phase | Examples |
|---|---|
| **Absorption** | • VPA absorption varies based on formulation and slows down with enteral nutrition<br>• PHT absorption is decreased with enteral nutrition and binds to PVC tubing |
| **Distribution** | • VPA and PHT are highly protein-bound with higher free drug in patients with hypoalbuminemia and other factors displacing drug from albumin<br>• VPA + PHT loading doses are based on actual body weight due to large Vd |
| **Metabolism** | • Dexamethasone may induce PHT metabolism requiring higher doses<br>• Carbapenems induce VPA metabolism and should be avoided if VPA indication is for seizures<br>• PHT induces metabolism of many meds, and many meds alter PHT metabolism |
| **Elimination** | • PHT is significantly removed by continuous renal replacement therapy |

**Table 2.** Therapeutic ranges for valproic acid and phenytoin based on indication.

| | Epilepsy OR Seizure Prevention | Active Seizures Despite Therapeutic Levels OR Status Epilepticus |
|---|---|---|
| **Phenytoin and Fosphenytoin** | | |
| Free | 1-2 mcg/mL | 2-2.5 mcg/mL |
| Total | 10-20 mcg/mL | 20-25 mcg/mL |
| **Valproic Acid and Derivatives** | | |
| Free | 5-10 mcg/mL | 10-25 mcg/mL |
| Total | 50-100 mcg/mL | 100-150 mcg/mL |

**References:** 1. Almohaish S, Cook AM, Brophy GM, Rhoney DH. Personalized antiseizure medication therapy in critically ill adult patients. Pharmacotherapy. 2023; 43: 1166-1181. 2. Brown CS, Liu J, Riker RR, Mara KC, Rabinstein AA, Fraser GL, May TL, Seder D, Gagnon DJ. Evaluation of Free Valproate Concentration in Critically Ill Patients. Crit Care Explor. 2022 Sep 7;4(9). 3. Riker, R.R., Gagnon, D.J., Hatton, C., May, T., Seder, D.B., Stokem, K. and Fraser, G.L. (2017), Valproate Protein Binding Is Highly Variable in ICU Patients and Not Predicted by Total Serum Concentrations: A Case Series and Literature Review. Pharmacotherapy, 37: 500-508. 4. Winckelman SL, et al. Therapeutic Drug Monitoring of Phenytoin in Critically Ill Patients. Pharmacotherapy 2008;28(11):1391-1400. 5. Nasreddine W, Dirani M, Atweh S, Makki A, Beydoun A. Determinants of free serum valproate concentration: A prospective study in patients on divalproex sodium monotherapy. Seizure. 2018;59:24-27. 6. Drisaldi A, Weeda E, Neyens R, et al. Accuracy of Valproic Acid Concentration Correction Based on Serum Albumin. Neurocrit Care. 2018. 7. Abernethy DR, Greenbalt DJ. Phenytoin disposition in obesity determination of loading dose. Arch Neurol. 1985; 42(5): 468-71. 8. Cheng W, Kiang TK, Bring P, Ensom MH. Predictive Performance of the Winter-Tozer and Derivative Equations for Estimating Free Phenytoin Concentration. Can J Hosp Pharm. 2016;69(4):269-79.

# Clinical Pearls

## Ambulatory Care: Hepatitis C Treatment in Primary Care *Molly Webster, PharmD, BCACP*

Over 2 million adults in the United States are infected with the hepatitis C virus (HCV),[1] and approximately 50% of infected persons are unaware they have the infection.[2] Left untreated, it can cause advanced liver disease, liver cancer and death.[3] In 2020, the CDC updated screening recommendations to include HCV screening at least once for all adults aged ≥18 years, and more often depending on exposure risk or potential for reinfection.[4]

Direct-acting antiviral (DAA) treatment has proven to be highly effective and can cure ≥95% of cases. Treatment saves lives, prevents transmission, and is cost saving.[5] Primary-care settings are well suited to provide care for people with chronic HCV because it is more widely available than specialty care and long-term relationships are often already established with patients.[6] Cost is one of the most significant barriers, but the process for obtaining coverage through insurance is becoming less cumbersome and access to these highly effective therapies has greatly improved.

The American Association for the Study of Liver Diseases (AASLD) and the Infectious Diseases Society of America (IDSA) collaborated to put forth a web-based process to disseminate evidence-based information quickly and easily. The guidelines are available at HCVguidelines.org and are updated regularly. They provide simplified algorithms for treatment-naive patients who are non-cirrhotic or have compensated cirrhosis with the goal of expanding the number of healthcare professionals who are comfortable prescribing antiviral therapy and ultimately increasing the number of persons treated.[7]

Treatment should be offered to all patients with chronic HCV infection who do not have a life expectancy that is <12 months. The simplified algorithms are not meant for those who have been previously treated, have decompensated cirrhosis, are HBsAg positive, are pregnant, have suspected hepatocellular carcinoma or a history of liver transplant.[7]

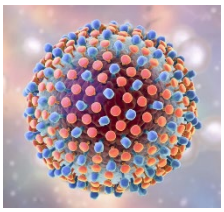
For treatment-naive chronic HCV patients eligible for the simplified algorithm, the first step includes assessing the risk for possible cirrhosis, which is generally done with transient elastography imaging. Calculating a FIB-4 score is a useful tool as well, although insurance requirements for approval typically require imaging. Additional pretreatment assessment includes reviewing medications for potential drug interactions with HCV treatment, educating patients about the necessity for adherence and potential side effects, obtaining baseline labs including HCV viral load and genotyping, screening for other viral infections (HIV, HepB), offering vaccination for hepatitis B if not immune and checking pregnancy status if applicable. The two regimens recommended for treatment in the simplified algorithms are glecaprevir/pibrentasvir (Mavyret®) x 8 weeks or sofosbuvir/velpatasvir (Epclusa®) x 12 weeks. Both regimens are well tolerated with the most common side effects being GI upset, headaches, and fatigue. A more serious side effect is the risk for reactivation of hepatitis B, which is why it is important to screen prior to initiating treatment. Specific laboratory monitoring is not necessary during treatment, but it is highly recommended to contact patients at least once throughout treatment to check on adherence and tolerance since taking the medication incorrectly can lead to treatment failure. Testing for cure is done 12 weeks after completion of treatment. The goal is for viral load to be undetectable (virologic cure) and is referred to as sustained virologic response (SVR). If SVR is achieved in noncirrhotic patients, then no further follow-up is necessary. For cirrhotic patients who achieve SVR, routine surveillance for hepatocellular carcinoma is recommended. Any patient who does not achieve SVR should be referred to a specialist for evaluation of retreatment.[7]

**References**: 1. National Health and Nutrition Examination Survey (NHANES). 2. Denniston MM, Klevens RM, et al. Awareness of infection, knowledge of hepatitis C, and medical follow-up among individuals testing positive for hepatitis C: National Health and Nutrition Examination Survey 2001-2008. Hepatology. 2012;55(6):1652-1661. 3. Liang TJ, Rehermann B, Seeff LB, Hoofnagle JH. Pathogenesis, natural history, treatment, and prevention of hepatitis C. Ann Intern Med 2000; 132:296–305. 4. Schillie S, Wester C, et al. CDC recommendations for HCV screening among adults - US, 2020. MMWR Recomm Rep. 2020;69(2):1-17. 5. Falade-Nwulia O, Suarez-Cuervo C, Nelson DR, Fried MW, Segal JB, Sulkowski MS. Oral direct-acting agent therapy for hepatitis C virus infection: a systematic review. Ann Intern Med 2017; 166:637–48. 6. McGinn TG, Gardenier D, et al. Treating chronic hepatitis C in the primary care setting. Semin Liver Dis. 2005; 25:65–71. 7. AASLD-IDSA. Recommendations for testing, managing, and treating hepatitis C.

### POP QUIZ TIME!

Which patient populations are not meant to follow the simplified HCV treatment algorithm? (Select **ALL** that apply)

A. Patients with decompensated cirrhosis
B. Pregnant patients
C. Patients with history of liver transplant
D. Treatment-naive patients



Answers: A, B, C. Decompensated cirrhosis, pregnant, and transplant patients

# Clinical Pearls

## Emergency Medicine: Doxycycline Postexposure Prophylaxis for Bacterial Sexually Transmitted Infection Prevention *Hannah Adams, PharmD, BCCCP*

The incidence of bacterial sexually transmitted infections (STIs) in the United States is on the rise. In 2023, over 2.4 million cases of gonorrhea, chlamydia and syphilis were reported, and these infections disproportionately affect gay, bisexual, and other men who have sex with men (MSM). MSM accounted for one-third of all primary and secondary syphilis cases and approximately half of all gonorrhea cases.[1] Postexposure prophylaxis (PEP) is the strategy of taking a medication to prevent infection *after* possible exposure and has been proven as an effective strategy for other infections, such as human immunodeficiency virus (HIV). Recent literature has evaluated the use of doxycycline as STI PEP. Three large, randomized trials of MSM and transgender women (TGW) have shown doxycycline 200 mg x1, when taken within 72 hours of sex, reduced the incidence of syphilis, chlamydia, and gonorrhea.[2,3,4] The only trial conducted in cisgender women did not find a reduction in STIs, however nonadherence with doxycycline regimen was high.[5] The Centers for Disease Control and Prevention (CDC) published a guidance document outlining the use of doxycycline PEP.[6] CDC recommends that gay, bisexual, and other MSM and TGW who have had an STI in the previous 12 months be offered doxycycline PEP. When providing doxycycline PEP, providers should prescribe doxycycline 200 mg x1 to be self-administered within 72 hours of sex (maximum 200 mg every 24 hours), and provide enough doses based on the person's anticipated sexual activity until their next visit. Doxycycline PEP should be offered along with a comprehensive sexual health approach, which includes risk reduction counseling, STI screening and treatment, discussion about HIV preexposure prophylaxis (PrEP), and any other sexual health services. Patients receiving doxycycline PEP should undergo STI testing and assess ongoing need for doxycycline PEP every 3-6 months.

**References**: 1. Centers for Disease Control and Prevention. *Sexually Transmitted Infections Surveillance 2023*. Atlanta: US Department of Health and Human Services; 2024. 2. Molina JM, et al. Lancet Infect Dis. 2018 Mar;18(3):308-317. 3. Luetkemeyer AF, et al. N Engl J Med. 2023 Apr 6;388(14):1296-1306. 4. Molina JM, et al. Lancet Infect Dis. 2024 Oct;24(10):1093-1104. 5. Stewart J, et al. N Engl J Med. 2023 Dec 21;389(25):2331-2340. 6. Bachmann LH, et al. MMWR Recomm Rep. 2024 Jun 6;73(2):1-8.

## Internal Medicine: Discontinuing Medications at Discharge *Julie Gordon, PharmD Candidate 2025; Nabhag Patel, PharmD, MBA, PGY1 Pharmacy Resident; Natalie Delozier, PharmD*

Unintentional continuation of medications at discharge is a frequent medication-related error that occurs during transitions of care. Medications intended for short-term use may end up being continued post-discharge. Many patients are already taking multiple medications for numerous disease states, which further increases their risk for adverse drug reactions, drug-drug interactions, and unnecessary medication costs.[1] Providers and pharmacists can play an important role in evaluating the appropriateness of each medication at discharge – decreasing the medication burden for their patients.

A cohort study conducted in Ontario, Canada of one million patients evaluated the rates and risk factors for unintentional medication continuation after hospitalization. They found the highest rates with gastric acid suppressants (6.1%), followed by benzodiazepines (3.3%), respiratory inhalers (2.2%), and antipsychotics (1.4%), with many of these medications continued at one year follow up.[1] Rates of unintentional continuation were higher among older patients and those with multiple comorbidities, with the greatest risk factor being hospitalization for over 7 days.[1] Hospitalization requiring intensive care unit (ICU) admissions was also a risk factor for the initiation of benzodiazepines and antipsychotics.[2] A recent small study evaluated patients that were ordered an antipsychotic during their ICU stay. They found that pharmacist-intervention led to a significant decrease in patients continuing antipsychotics upon discharge (12.5% vs 36.4%, P=0.04).[2] Another study of 173 patients specifically evaluated hypnotic use (majority being benzodiazepines) and found that pharmacist-intervention led to a reduction in hypnotic drug use and no difference in sleep quality one month after discharge (37.7% vs 21.9%, P= 0.02).[3]

Overall, providers and pharmacists can have a profound impact ensuring that medications continued post-discharge have an appropriate indication, especially in patients who require longer lengths of stay and ICU admissions. It is important to assess the appropriateness of all medications upon hospital discharge, especially acid-suppressing medications, benzodiazepines, anti-psychotics, and respiratory inhalers, as studies show those medications were commonly continued at discharge.[1] Stopping these medications when there is no indication can significantly improve patient outcomes and decrease healthcare costs.

**References**: 1. Scales DC, Fischer HD, Li P, et al. Unintentional Continuation of Medications Intended for Acute Illness After Hospital Discharge: A Population-Based Cohort Study. *J Gen Intern Med*. 2016;31(2):196-202. 2. Dickman LT, Bauman K, Carter CK, Buchanan PM. Impact of Pharmacist Intervention on Inappropriate Continuations of Antipsychotics upon ICU Discharge. Journal of Pharmacy Practice. 2024;0(0). 3. Van der Linden, L., Hias, J., Liesenborghs, A. *et al.* The impact of a pharmacist intervention on post-discharge hypnotic drug discontinuation in geriatric inpatients: a before-after study. *BMC Geriatr* **23**, 407 (2023).

# CME

Name (Required): Date:

Email:

*Submit quiz to Alissa Lee by email (Alissa.Lee@thechristhospital.com) or fax (513-585-3438). Receipt of completed quiz will be confirmed by email. To receive CME credit, one must score at least 80%. Submissions are due by January 31, 2026. If a participant received a score below the minimum requirement, he/she will be contacted and asked to resubmit. Two attempts are the maximum each participant is allowed. Each question is worth 1 point and the quiz is worth a total of 10 points.*

1. Which laws apply to medication compounding? (Select **ALL** that apply)
   a) Federal Food, Drug, and Cosmetic Act
   b) 503B Compounding and Security Act
   c) Drug Quality and Security Act
   d) GLP-1 Cosmetic Act

2. In which of the following scenarios does compounding play a valuable role in patient care?
   a) Patient has no allergies to commercially available products
   b) Patient has trouble swallowing and needs liquid medication
   c) Patient's medication is commercially available
   d) Patient's medication is not on shortage currently, but may be on shortage in the next year

3. Which is **NOT** an example of common pharmacokinetic changes affecting VPA and PHT?
   a) Dexamethasone may induce PHT metabolism requiring higher doses
   b) VPA absorption varies based on formulation and slows down with enteral nutrition
   c) PHT is not removed by CRRT
   d) Carbapenems induce VPA metabolism and should be avoided if VPA indication is for seizures

4. What is the correct therapeutic range for free VPA in the setting of status epilepticus?
   a) 10-25 mcg/mL
   b) 2-2.5 mcg/mL
   c) 5-10 mcg/mL
   d) 50-100 mcg/mL

5. What are some of the essential pretreatment steps for treatment-naive patients going through the simplified HCV algorithm? (Select **ALL** that apply)
   a) Reviewing medications for potential interactions with HCV medications
   b) Educating patients about the necessity for adherence
   c) Obtaining baseline labs
   d) Screening for other viral infections (such as HIV and HepB)

6. True or False: The two recommended HCV regimens according to the simplified algorithm are Mavyret® x 8 weeks or Epclusa® x 12 weeks.
   a) True
   b) False

7. What does the CDC recommend regarding the use of doxycycline PEP?
   a) Only TGW should be offered doxycycline PEP
   b) Gay, bisexual, and other MSM and TGW who have had an STI in the previous 12 months should be offered doxycycline PEP
   c) Gay, bisexual, and other MSM and TGW who have had an STI in the previous 24 months should be offered doxycycline PEP
   d) The CDC offers no guidance on the use of doxycycline PEP

8. What is the dose of doxycycline PEP?
   a) 200mg daily for 3 days during sexual activity
   b) 100mg twice daily for 3 days during sexual activity
   c) 100mg x1 within 72 hours of sexual activity
   d) 200mg x1 within 72 hours of sexual activity

9. True or false: according to a Canadian cohort study, the highest rates of unintentional continuation of medications occurred with benzodiazepines.
   a) True
   b) False

10. What are some risk factors for unintentional continuation of medications at discharge? (Select **ALL** that apply)
   a) Older age
   b) Patients with a diagnosis of schizophrenia
   c) Patients with multiple comorbidities
   d) Hospitalization for over 7 days

**Date originated: January 28, 2025** **CME credit designation expiration: January 31, 2026**

**Disclosure Information:** The authors, planners, and CME Committee members have indicated no significant financial interest or arrangements with any organization that could be perceived as a real or apparent conflict of interest in the context of this activity's subject matter. There is no commercial support or sponsorship for this activity.

**Objectives**: At the conclusion of this educational activity, participants should be able to: (1) Explain changes to the formulary, (2) Implement guidelines and best practices relating to the usage of the drugs and topics discussed, and (3) Assist with carrying out of Antimicrobial Stewardship efforts and other Network initiatives.

**Accreditation & Credit Designation:** The Christ Hospital Health Network is accredited by the Ohio State Medical Association to provide continuing medical education for physicians. The Christ Hospital Health Network designates the enduring-material CME activity for a maximum of 1.0 AMA PRA Category 1 Credit™.

In order to obtain the above credits, physicians and/or allied health members must complete the following steps:

1. Read the January 2025 PharmFacts Bulletin. The estimated time to complete this activity is 1 hour.
2. Score at least 80% on the post quiz. If a participant receives a score below the minimum requirement, he/she will be contacted and asked to resubmit. Two attempts is the maximum amount each participant is allowed.