

The most Interesting/Important Clinical Questions I get Asked as an ED Pharmacist

1. For a patient in Afib w/ RVR, what is my approach to rate control if the BP is soft (eg, 95/60 mm Hg)?
 - a. Try giving calcium with the CCB or BB ([ALiEM 2013](#))
 - b. Administer magnesium as an adjunct ([ALiEM 2016](#))
 - c. If using diltiazem ([ALiEM 2014](#), [Hines 2016](#), [McGrath 2020](#)), try a 10 mg dose instead of weight-based ([Ward 2020](#), [Ross 2016](#), [Zimmerman 2018](#))
 - d. Try using a short-acting agent such as esmolol, particularly if the patient's BP may be rate-dependent
2. Can I use diltiazem or verapamil for Afib w/RVR if the patient has a reduced EF?
 - a. Diltiazem (and metoprolol) can be used to control HR in afib with RVR. Despite the negative inotropic effects, their use doesn't seem to be associated with risk for hypotension or other adverse events ([Jandali 2018](#), [Hirschy 2019](#)). If severely reduced, try an alternative such as digoxin.
3. What if diltiazem isn't working? Can I switch to a beta-blocker? Will that cause heart block?
 - a. There is a concern for heart block, bradycardia, and hypotension. But it hasn't been formally studied. We evaluated 136 patients at our shop that received the combination within 4 hours of each other ([Alowais 2020](#)). Bradycardia developed in 4% of cases (1 pt required intervention) and 9% developed hypotension with systolics as low as 72. So, combination therapy isn't benign but it also doesn't lead to heart block in every case. Use caution.
4. Which antiemetic(s) have the smallest effect on the QT interval?
 - a. *Metoclopramide*: Minimal risk of QT prolongation ([Gaffigan 2015](#))
 - b. *Prochlorperazine*: Minimal risk of QT prolongation
 - c. *Ondansetron*: 4 mg IV prolongs QTc by a mean of ~20 msec in adult ED patients ([Moffett 2016](#), [Li 2018](#)). It is similar in patients with cardiovascular disease ([Hafermann 2011](#)). Children seem less affected ([Hoffman 2018](#)).
5. What about droperidol?
 - a. Most ED patients have minimal QT prolongation after doses up to 10 mg ([PharmERToxGuy 2020](#), [Martel 2020](#)). Monitor ECG appropriately for the situation.
6. Does nitrofurantoin need to be avoided in older adults?
 - a. No. This is a great drug. Up through 2012, the Beers Criteria recommended against using nitrofurantoin in this age group ([J Am Geriatr Soc 2019](#)). Fortunately, it's been down-graded over the years. It is now recommended to be avoided only in older adults with CrCl < 30 or for long-term UTI suppression. Observational studies suggest that the agent is effective and safe with mild renal impairment, even in older women. Long-term use increases the risk of lung injury and hepatotoxicity. Drug-induced hepatotoxicity presents in acute (3 in 1,000,000) and chronic (1 in 1,500) forms ([Kapral 2018](#)).

7. Which antibiotic drug interactions should I care about?
 - a. Warfarin - major interaction [moxifloxacin, metronidazole, TMP-SMX] and moderate interaction [azithromycin, ciprofloxacin, doxycycline, levofloxacin] ([Seamans 2018](#))
 - b. Sulfonylureas - TMP-SMX inhibits metabolism = hypoglycemia. Levofloxacin and ciprofloxacin can also have this issue ([Schelleman 2010](#))
 - c. Methadone - QT prolongation with fluoroquinolones
 - d. ACE-I, ARB, potassium-sparing diuretics - Increased hyperkalemia risk with TMP-SMX ([Antoniou 2010](#), [Fralick 2014](#))
 - e. Ethanol - The interaction with metronidazole may be less clinically significant than we think ([EMPharmD blog 2014](#))
 - f. Bonus Myth Buster: Antibiotics, other than rifampin, generally do not interact with hormonal contraception ([Simmons 2018](#))