## **CARDIOVASCULAR DRUGS:**

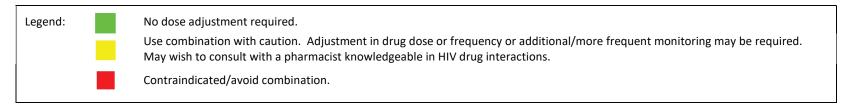
## **ANTIHYPERTENSIVES AND DIGOXIN**

	INSTIS		NNRTIS		Pls
	<ul> <li>BICTEGRAVIR (Biktarvy)</li> <li>DOLUTEGRAVIR (Tivicay, Triumeq, Juluca)</li> <li>RALTEGRAVIR (Isentress)</li> </ul>	• ELVITEGRAVIR/ COBICISTAT (Stribild, Genvoya)	<ul> <li>DORAVIRINE (Pifeltro, Delstrigo)</li> <li>RILPIVIRINE (Edurant, Complera, Odefsey, Juluca)</li> </ul>	<ul> <li>EFAVIRENZ (Sustiva, Atripla)</li> <li>ETRAVIRINE (Intelence)</li> <li>NEVIRAPINE (Viramune)</li> </ul>	Boosted with ritonavir (Norvir) or cobicistat • ATAZANAVIR (Reyataz, Evotaz) • DARUNAVIR (Prezista, Prezcobix, Symtuza) • LOPINAVIR (Kaletra)
ACEI					
<ul> <li>Benazepril, enalapril, lisinopril, perindopril, ramipril, etc.</li> </ul>					
ARBs					
• Eprosartan, olmesartan, telmisartan, valsartan					
• Losartan, candesartan, irbesartan		Potential for ↑/↓ ARB		Potential for ↑/↓ ARB	Potential for ↑/↓ ARB
BETA-BLOCKERS					
• Atenolol, nadolol					

	INSTIs		NNRTIS		Pls
	<ul> <li>BICTEGRAVIR (Biktarvy)</li> <li>DOLUTEGRAVIR (Tivicay, Triumeq, Juluca)</li> <li>RALTEGRAVIR (Isentress)</li> </ul>	COBICISTAT (Stribild,	<ul> <li>DORAVIRINE (Pifeltro, Delstrigo)</li> <li>RILPIVIRINE (Edurant, Complera, Odefsey, Juluca)</li> </ul>	<ul> <li>EFAVIRENZ (Sustiva, Atripla)</li> <li>ETRAVIRINE (Intelence)</li> <li>NEVIRAPINE (Viramune)</li> </ul>	Boosted with ritonavir (Norvir) or cobicistat • ATAZANAVIR (Reyataz, Evotaz) • DARUNAVIR (Prezista, Prezcobix, Symtuza) • LOPINAVIR (Kaletra)
<ul> <li>Acebutolol, bisoprolol, carvedilol, metoprolol, propranolol</li> </ul>		Potential for ↑ beta-blocker		Potential for ↓ beta-blocker	Potential for ↑ beta-blocker
CALCIUM CHANNEL	BLOCKERS				
<ul> <li>Amlodipine, diltiazem, felodipine, nifedipine, verapamil</li> </ul>		Potential for ↑ CCB.  Consider 50% dose ↓ or start with lowest dose possible		Potential for ↓ CCB	Potential for ↑ CCB. Consider 50% dose ↓ or start with lowest dose possible
DIURETICS					
<ul> <li>Amiloride, hydrochloro- thiazide, furosemide, spironolactone, triamterene</li> </ul>					
• Indapamide		Potential for ↑ indapamide		Potential for ↓ indapamide	Potential for ↑ indapamide
DIGOXIN		Potential for ↑ digoxin		Potential for ↑ digoxin (etravirine)	Potential for ↑ digoxin

## Mechanism of Drug Interactions, Management and Monitoring

Class	Mechanism of Interaction	Main Interacting ARVs	Management	Monitoring
ACEI	Renally cleared.	No significant interactions predicted.	Use standard drug doses.	
ARBs	Conversion via 2C9 to active metabolite (losartan), Substrate of 2C9 (candesartan, irbesartan)	Elvitegravir (induction), efavirenz, etravirine (inhibition)	Adjust losartan, candesartan, irbesartan dose according to response/toxicity. Other ARBs may be used without dose adjustment.	ARB efficacy and toxicity
Beta-blockers	Mixed CYP substrates (propranolol, acebutolol, bisoprolol, labetalol, metoprolol, pindolol)	Ritonavir and cobicistat- boosted protease inhibitors and elvitegravir (inhibition); efavirenz, etravirine, nevirapine (induction).	Adjust beta-blocker dose according to response/toxicity. Other beta-blockers (atenolol, nadolol) may be used without dose adjustment.	Beta-blocker toxicity: heart rate, blood pressure, shortness of breath
Calcium channel blockers	Inhibition of CYP3A4	Ritonavir and cobicistat- boosted protease inhibitors and elvitegravir	Consider 50% dose reduction in CCB	CCB toxicity: heart rate, blood pressure, shortness of breath, dizziness.
	Induction of CYP3A4	Efavirenz, etravirine, nevirapine	Adjust CCB dose according to efficacy/toxicity.	CCB efficacy.
Diuretics	Mixed CYP substrates (indapamide)	Ritonavir and cobicistat- boosted protease inhibitors, elvitegravir, efavirenz, etravirine and nevirapine.	Adjust indapamide dose according to response/toxicity. Other diuretics may be used without dose adjustment.	Indapamide toxicity: dizziness, headache, hyperglycemia, hypokalemia
Digoxin	Inhibition of P-glycoprotein	Ritonavir and cobicistat- boosted protease inhibitors and elvitegravir, etravirine	Adjust digoxin dose according to response/toxicity	Digoxin concentrations, toxicity (arrhythmias, ventricular tachycardia, bradycardia, AV block, anorexia, nausea, blurred/yellow vision, headache)





Printed with the assistance of an unrestricted educational grant from:









© 2019 Canadian HIV and Viral Hepatitis Pharmacists Network (CHAP) All listed brands are trademarks or registered trademarks of their respective owners.



