

# Interaction Potential of Chemsex Drugs

Revised October 2022.

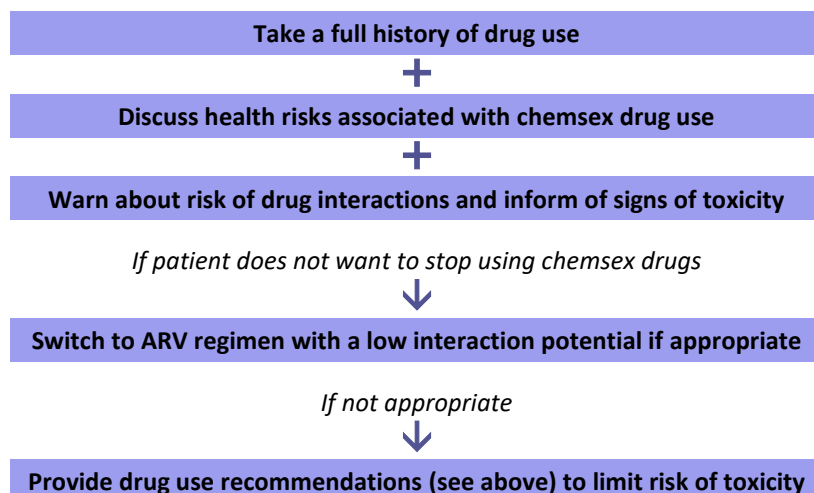
Full information available at [www.hiv-druginteractions.org](http://www.hiv-druginteractions.org)

For personal use only. Not for distribution. For personal use only. Not for distribution. For personal use only. Not for distribution. For personal use only. Not for distribution.

Drug	Metabolism	Interaction Potential		Signs of Toxicity	Recommendations with cobicistat, ritonavir or lenacapavir containing regimens
		Cobicistat (Cobi) Ritonavir (RTV) Lenacapavir (LEN)	BIC, CAB, DOR, DTG, FTR, MVC, RAL, RPV, NRTIs		
<b>Benzodiazepines:</b> <i>Midazolam, Triazolam</i>	CYP3A4	High (Cobi, RTV) Moderate (LEN)	Low	<ul style="list-style-type: none"> <li>• Drowsiness</li> <li>• Disorientation</li> </ul>	<ul style="list-style-type: none"> <li>• Contraindicated with cobicistat and ritonavir.</li> </ul>
<b>Benzodiazepines:</b> <i>Others</i>	CYP3A4	High (Cobi, RTV) Moderate (LEN)	Low	<ul style="list-style-type: none"> <li>• Drowsiness</li> <li>• Disorientation</li> </ul>	<ul style="list-style-type: none"> <li>• Caution– use lower dose of benzodiazepine.</li> </ul>
<b>Cocaine</b>	CYP3A4 (minor)	Low-moderate	Low  (Note, caution with FTR and RPV due to known risk of QT prolongation with cocaine)	<ul style="list-style-type: none"> <li>• Tremors</li> <li>• Paranoia</li> <li>• Seizures</li> <li>• Headache</li> <li>• Hyperthermia</li> </ul>	<ul style="list-style-type: none"> <li>• Clinical relevance unknown.</li> <li>• Inform users of signs of toxicity.</li> </ul>
<b>Ecstasy (MDMA)</b>	CYP2D6	Limited CYP2D6 inhibition but small PK changes could be significant due to non-linear PK (Cobi, RTV)  Low (LEN)	Low	<ul style="list-style-type: none"> <li>• Hypertension</li> <li>• Seizures</li> <li>• Hyperthermia</li> <li>• Arrhythmia</li> <li>• Tachycardia</li> <li>• Teeth grinding</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid if possible.</li> <li>• If unavoidable with cobicistat or ritonavir, start with ~25-50% of the usual amount of ecstasy.</li> <li>• Inform users of signs of toxicity.</li> </ul>
<b>GHB</b>	GHB dehydrogenase CYP?	Unknown. Caution due to GHB <b>narrow therapeutic index</b>	Low	<ul style="list-style-type: none"> <li>• Seizures</li> <li>• Bradycardia</li> <li>• Respiratory depression</li> </ul>	<ul style="list-style-type: none"> <li>• Use with caution.</li> <li>• Use lower dose.</li> <li>• Inform users of signs of toxicity.</li> </ul>
<b>Ketamine</b>	CYP3A4	High (Cobi, RTV) Moderate (LEN)	Low	<ul style="list-style-type: none"> <li>• Respiratory depression</li> <li>• Hallucinations</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid if possible.</li> <li>• If unavoidable with cobicistat or ritonavir, start with ~33-50% of the usual amount of ketamine.</li> </ul>
<b>Mephedrone</b>	CYP2D6	Limited CYP2D6 inhibition (Cobi, RTV) Low (LEN)	Low	<ul style="list-style-type: none"> <li>• Tachycardia</li> <li>• Agitation</li> </ul>	<ul style="list-style-type: none"> <li>• Use lower dose with cobicistat and ritonavir.</li> <li>• Inform users of signs of toxicity.</li> </ul>
<b>Methamphetamine</b>	CYP2D6	Limited CYP2D6 inhibition but small PK changes could be significant due to non-linear PK (Cobi, RTV) Low (LEN)	Low	<ul style="list-style-type: none"> <li>• Hypertension</li> <li>• Seizures</li> <li>• Hyperthermia</li> <li>• Arrhythmia</li> <li>• Tachycardia</li> <li>• Teeth grinding</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid if possible.</li> <li>• If unavoidable with cobicistat or ritonavir, start with ~25-50% of the usual amount of methamphetamine.</li> <li>• Inform users of signs of toxicity.</li> </ul>
<b>Poppers (nitrites)</b>	Non-CYP mediated	Low	Low	<ul style="list-style-type: none"> <li>• Dizziness</li> <li>• Hypotension</li> </ul>	<ul style="list-style-type: none"> <li>• Inform users of signs of toxicity.</li> </ul>
<b>Sildenafil</b> <b>Tadalafil</b> <b>Vardenafil</b>	CYP3A4	High (Cobi, RTV) Moderate (LEN)	Low	<ul style="list-style-type: none"> <li>• Chest pain</li> <li>• Nausea</li> <li>• Arrhythmia</li> </ul>	<ul style="list-style-type: none"> <li>• Use lower dose: Sildenafil – 25 mg in 48 h Tadalafil – 10 mg in 72 h Vardenafil – 2.5 mg in 72 h (5 mg in 24 h with lenacapavir)</li> </ul>

Note: interactions and their effects are difficult to predict due to variability in the amount of recreational drug and the possible presence of other substances. Residual lenacapavir concentrations may affect exposure of sensitive CYP3A4 substrates initiated within 9 months after stopping subcutaneous lenacapavir.

## Flow Chart for Clinical Practice



Abbreviations BIC bictegravir CAB cabotegravir DOR doravirine DTG dolutegravir FTR fostemsavir MVC maraviroc RAL raltegravir RPV rilpivirine  
NRTIs Nucleoside/tide Reverse Transcriptase Inhibitors (abacavir, emtricitabine, lamivudine, tenofovir alafenamide, tenofovir-DF, zidovudine)

© Liverpool Drug Interactions Group, University of Liverpool, 3rd Floor William Henry Duncan Building, 6 West Derby Street, Liverpool, L7 8TX.

We aim to ensure that information is accurate and consistent with current knowledge and practice. However, the University of Liverpool and its servants or agents shall not be responsible or in any way liable for the continued currency of information in this publication whether arising from negligence or otherwise howsoever or for any consequences arising therefrom. The University of Liverpool expressly exclude liability for errors, omissions or inaccuracies to the fullest extent permitted by law.