

ANALGESICS

OPIOIDS, OPIOID-SUBSTITUTION, NON-NARCOTICS

	INSTIs		NNRTIs		PIs	RTI	
	<ul style="list-style-type: none"> • BICTEGRAVIR (<i>Biktarvy</i>) • DOLUTEGRAVIR (<i>Tivicay, Triumeq, Juluca</i>) • RALTEGRAVIR (<i>Isentress</i>) 	<ul style="list-style-type: none"> • ELVITEGRAVIR/COBICISTAT (<i>Stribild, Genvoya</i>) 	<ul style="list-style-type: none"> • DORAVIRINE (<i>Pifeltro, Delstrigo</i>) • RILPIVIRINE (<i>Edurant, Complera, Odefsey, Juluca</i>) 	<ul style="list-style-type: none"> • EFAVIRENZ (<i>Sustiva, Atripla</i>) • ETRAVIRINE (<i>Intelence</i>) • NEVIRAPINE (<i>Viramune</i>) 	<ul style="list-style-type: none"> • ATAZANAVIR (<i>Reyataz/Norvir, Evotaz</i>) • DARUNAVIR (<i>Prezista/Norvir, Prezcobix, Symtuza</i>) • LOPINAVIR (<i>Kaletra</i>) 	<ul style="list-style-type: none"> • TENOFOVIR DISOPROXIL, TDF (<i>Viread, Truvada, Atripla, Complera, Delstrigo, Stribild</i>) 	<ul style="list-style-type: none"> • TENOFOVIR ALAFENAMIDE, TAF (<i>Descovy, Biktarvy, Genvoya, Odefsey, Symtuza</i>) • ABACAVIR (<i>Kivexa, Ziagen, Triumeq</i>)

OPIOIDS

• Codeine		Potential ↓ analgesic effect		Potential ↓ analgesic effect	Potential ↓ analgesic effect		
• Hydrocodone (<i>Hycodan</i>) • Oxycodone (<i>Percocet</i>)		↑ oxycodone ↑ hydrocodone		↓ oxycodone ↓ hydrocodone	↑ oxycodone ↑ hydrocodone		
• Fentanyl (<i>Duragesic</i>)		↑ fentanyl		↓ fentanyl	↑ fentanyl		
• Morphine • Hydromorphone (<i>Dilaudid</i>)							
• Tramadol (<i>Tramacet</i>)		↑ tramadol		↓ tramadol	↑ tramadol		

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PARTIAL AGONIST/ANTAGONIST

• Buprenorphine/naloxone (<i>Suboxone</i>)				Potential for ↓ buprenorphine	Potential for ↑ buprenorphine		
• Methadone (<i>Metadol, Methadose</i>)				Potential for ↓ methadone, withdrawal (EFV, NVP)	Potential for ↑/↓ methadone with PIs (may not be clinically significant)		
• Naloxone (<i>Narcan</i>)					PI/Ritonavir: potential ↓ naloxone		
					PI/cobicistat		

NON-NARCOTIC ANALGESICS

• Acetaminophen (<i>Tylenol</i>)							
• NSAIDs: ASA, celecoxib, diclofenac, ibuprofen, naproxen		*caution: ↑ risk renal toxicity with TDF-containing formulations	*caution: ↑ risk renal toxicity with TDF-containing formulations	*caution: ↑ risk renal toxicity with TDF-containing formulations		Potential renal toxicity with high dose/prolonged NSAID use	

Mechanism of Drug Interactions, Management and Monitoring

Analgesic	Mechanism of Interaction	Main Interacting ARVs	Management	Monitoring
Buprenorphine/naloxone	CYP3A4, UGT	PIs, cobicistat may increase buprenorphine Enzyme inducing NNRTIs (efavirenz, etravirine, nevirapine) may decrease buprenorphine	Possible increases in buprenorphine effect. Possible decreases in buprenorphine effect.	Monitor for increase in opioid side effects. Monitor for symptoms of opiate withdrawal.
Codeine	Conversion of codeine to morphine via CYP2D6 Inactivated via UGT and CYP3A4	Ritonavir, cobicistat may inhibit conversion to morphine Enzyme-inducing NNRTIs efavirenz, etravirine and nevirapine	Possible decrease in analgesic effect.	Monitor for analgesia.
Fentanyl	CYP3A4 inhibition CYP3A4 induction	Cobicistat and Protease Inhibitors Enzyme-inducing NNRTIs efavirenz, etravirine and nevirapine	Possible significant increases in fentanyl levels Possible decrease in fentanyl levels	*The Duragesic® (fentanyl) monograph states: "The concomitant use of CYP3A4 inhibitors and DURAGESIC MAT is not recommended, unless the patient is closely monitored."
Methadone	CYP3A4 and 2D6 metabolism induction	Efavirenz and nevirapine	Possible decrease in methadone levels potentially leading to withdrawal or loss of pain control	Monitor for symptoms of opiate withdrawal or increase in pain and increase methadone dose by 10 mg increments
Morphine & hydromorphone	Mostly UGT metabolized; renal elimination	None	None	None
Hydrocodone, oxycodone, tramadol	CYP2D6 and 3A4 metabolism inhibition CYP3A4 Induction	Cobicistat and Protease Inhibitors	Possible increases in narcotic levels	Monitor for increase opioid side effects; symptoms of overdose

Analgesic	Mechanism of Interaction	Main Interacting ARVs	Management	Monitoring
		Enzyme-inducing NNRTIs efavirenz, etravirine and nevirapine	Possible decrease in narcotic levels	Monitor pain symptoms and adjust narcotic doses incrementally as needed.
Naloxone	UGT2B7 Induction (ritonavir)	Ritonavir-boosted PIs	Possible decrease in naloxone levels	May need to increase dose in reversal of narcotic overdose.
NSAIDS	Combining nephrotoxic agents	Tenofovir DF-containing regimens	Consider alternate pain control Consider alternate NRTI (TAF, abacavir)	Monitor Renal function Assess OTC NSAID use

Legend:



No dose adjustment required.

Use combination with caution. Adjustment in drug dose or frequency or additional/more frequent monitoring may be required.
May wish to consult with a pharmacist knowledgeable in HIV drug interactions.

Contraindicated/avoid combination.

A MANAGEMENT TOOL FOR **HIV** DRUG-DRUG INTERACTIONS

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