

# CA-ADAP Medication Review: Modafinil and Armodafinil

July 2024

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## Promote alertness

- ▶ Distinct mechanism of action from other CNS stimulants
- ▶ Potential for abuse is lower than other controlled stimulants (*though still present*)
- ▶ **Modafinil:** Appears to selectively decrease somnolence and does not affect activities of memory, concentration, learning, sleep latency/sleep structure in narcoleptic patients
- ▶ **Armodafinil:** Promotes wakefulness later in the day without impairing sleep, establishing its long duration of action

## Improve wakefulness

- ▶ To improve wakefulness in patients with excessive sleepiness:
  - For the treatment of narcolepsy
  - For the treatment of shift work sleep disorder
  - For the treatment of obstructive sleep apnea

# Modafinil Dosing:

**Tablets available:**  
**100 mg**  
**200 mg**  
*Brand name Provigil*

- ▶ For the treatment of narcolepsy:
  - *200 mg once daily in the morning*
- ▶ For the treatment of shift work sleep disorder:
  - *200 mg once daily, given approx. 1 hour prior to start of shift*
- ▶ For the treatment of obstructive sleep apnea
  - *200 mg once daily in the morning*

# Armodafinil Dosing:

## Tablets available:

**50 mg**

**150 mg**

**200 mg**

**250 mg**

*Brand name Nuvigil*

- ▶ For the treatment of narcolepsy:
  - *150 mg to 250 mg once daily in the morning*
- ▶ For the treatment of shift work sleep disorder:
  - *150 mg once daily, given approx. 1 hour prior to start of shift*
- ▶ For the treatment of obstructive sleep apnea
  - *150 mg to 250 mg once daily in the morning*

# Modafinil/Armodafinil ARV Interactions - NNRTIs

	ARV Agent	Modafinil/Armodafinil
Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs)	<i>doravirine</i> (Pifeltro)	Doravirine may have its concentration decreased
	<i>rilpivirine</i> (Edurant)	Rilpivirine may have its concentration decreased
	<i>efavirenz</i> (Sustiva)	None
	<i>etravirine</i> (Intelence)	None
	<i>nevirapine</i> (Viramune)	None

	Level 3 (Moderate) Interaction
	Level 2 (Major) Interaction

# Modafinil/Armodafinil ARV Interactions – Protease Inhibitors

	ARV Agent	Modafinil/Armodafinil
Protease Inhibitors (PIs)	<i>atazanavir</i> (Reyataz)	Atazanavir may have its effect decreased, and may increase effect of Modafinil/Armodafinil
	<i>atazanavir/cobicistat</i> (Evotaz)	-Atazanavir may have its effect decreased, and may increase effect of Modafinil/Armodafinil -Cobicistat may have effect decreased by, and may increase effect of Modafinil/Armodafinil
	<i>darunavir</i> (Prezista)	Darunavir may have its effect decreased by, and may increase effect of Modafinil/Armodafinil
	<i>darunavir/cobicistat</i> (Prezcobix)	-Darunavir may have its effect decreased by, and may increase effect of Modafinil/Armodafinil -Cobicistat may have effect decreased by, and may increase effect of Modafinil/Armodafinil
	<i>fosamprenavir</i> (Lexiva)	Fosamprenavir may have its effect decreased by, and may decrease effect of Modafinil/Armodafinil
	<i>ritonavir</i> (Norvir)	Ritonavir may have its effect decreased by, and may decrease effect of Modafinil/Armodafinil
	<i>lopinavir/ritonavir</i> (Kaletra)	Ritonavir may have its effect decreased by, and may decrease effect of Modafinil/Armodafinil
	<i>tipranavir</i> (Aptivus)	None
	<i>nelfinavir</i> (Viracept)	None

	Level 3 (Moderate) Interaction
	Level 2 (Major) Interaction

# Modafinil/Armodafinil ARV Interactions - Other

	ARV Agent	Modafinil/Armodafinil		
Boosting Agents	<i>cobicistat</i> (Tybost)	Cobicistat may have effect decreased by, and may increase effect of Modafinil/Armodafinil		
INSTI-Based Therapy	<i>elvitegravir/cobicistat/emtricitabine/tenofovir alafenamide</i> (Genvoya)	-Elvitegravir may have its concentration decreased		
	<i>elvitegravir/cobicistat/emtricitabine/tenofovir disoproxil fumarate</i> (Stribild)	-Cobicistat may have effect decreased by, and may increase effect of Modafinil/Armodafinil		
	<i>dolutegravir</i> (Tivicay)	Dolutegravir may have its effect reduced		
	<i>dolutegravir/lamivudine</i> (Dovato)			
	<i>dolutegravir/rilpivirine</i> (Juluca)			
	<i>dolutegravir/lamivudine/abacavir</i> (Triumeq)	Rilpivirine may have its concentration decreased		
	<i>cabotegravir/rilpivirine</i> (Cabenuva)			
	<i>bictegravir/emtricitabine/tenofovir alafenamide</i> (Biktarvy)	None		
	<i>raltegravir</i> (Isentress)			
GP120 Attachment Inhibitors	<i>fostemsavir</i> (Rukobia)	None		Level 3 (Moderate) Interaction
				Level 2 (Major) Interaction



# Modafinil/Armodafinil ARV Interactions – Other cont'd

	ARV Agent	Modafinil/Armodafinil
CCR5 Co-Receptor Antagonists	<i>maraviroc</i> (Selzentry)	Maraviroc may have its concentration decreased
CD4 Post-Attachment Inhibitors	<i>ibalizumab</i> (Trogarzo)	None
Fusion Inhibitors	<i>enfuvirtide</i> (Fuzeon)	None
Nucleoside Reverse Transcriptase Inhibitors (NRTIs)	<i>abacavir</i> (Ziagen)	None
	<i>abacavir/lamivudine</i> (Epzicom)	
	<i>didanosine</i> (Videx)	
	<i>emtricitabine</i> (Emtriva)	
	<i>emtricitabine/tenofovir alafenamide</i> (Descovy)	
	<i>emtricitabine/tenofovir disoproxil fumarate</i> (Truvada)	
	<i>lamivudine</i> (Epivir)	
	<i>tenofovir alafenamide</i> (Vemlidy)	
	<i>tenofovir disoproxil fumarate</i> (Viread)	
	<i>zidovudine</i> (Retrovir)	
	<i>zidovudine/lamivudine</i> (Combivir)	

	Level 3 (Moderate) Interaction
	Level 2 (Major) Interaction

# Modafinil/Armodafinil Claim Denials

AGENT	GENERIC AVAILABLE	# UNIQUE CARDHOLDER FILLS OR DENIALS (Jul 2023 – Jun 2024)	AZ	CT	FL	GA	IL	NY	TX
<i>modafinil (Provigil) 100 mg</i>	Y	21.9%	-	-	Y	-	-	-	-
<i>modafinil (Provigil) 200 mg</i>	Y	51.6%	-	-	Y	-	-	-	-
<i>armodafinil (Nuvigil) 150 mg</i>	Y	4.7%	-	-	-	-	-	-	-
<i>armodafinil (Nuvigil) 200 mg</i>	Y	6.3%	-	-	-	-	-	-	-
<i>armodafinil (Nuvigil) 250 mg</i>	Y	15.6%	-	-	-	-	-	-	-

# References

- <https://adap.directory/directory>
- <https://www.clinicalkey.com/pharmacology/> (Clinical Pharmacology)

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