

Treatment of Central Disorders of Hypersomnolence: An American Academy of Sleep Medicine Clinical Practice Guideline

Guidelines at-a-Glance

Adapted from

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IMPLICATIONS OF STRONG AND CONDITIONAL RECOMMENDATIONS FOR CLINICIAN USERS

Strong Recommendation (*We recommend...*):

Almost all patients should receive the recommended course of action. Adherence to this recommendation could be used as a quality criterion or performance indicator.

Conditional Recommendation (*We suggest...*):

Most patients should receive the suggested course of action; however, different choices may be appropriate for different patients. The clinician must help each patient determine if the suggested course of action is clinically appropriate and consistent with his or her values and preferences.

The ultimate judgment regarding the suitability of any specific recommendation must be made by the clinician.





QUALITY OF EVIDENCE

- ⊕⊕⊕⊕ High
- ⊕⊕⊕⊖ Moderate
- ⊕⊕⊖⊖ Low
- ⊕⊖⊖⊖ Very Low








BENEFITS VERSUS HARMS

- B>H** Benefits outweigh harms
- B=H** Benefits approximately equal harms
- H>b** Harms outweigh benefits






PATIENT VALUES AND PREFERENCES

-  Vast majority of patients would use
-  Majority of patients would use
-  Majority of patients would not use
-  Vast majority of patients would not use


TREATMENT OF NARCOLEPSY IN ADULTS

1. We recommend that clinicians use modafinil (versus no treatment) for the treatment of narcolepsy in adults. ^{A, B, C, D} (STRONG) ⊕⊕⊕⊕
B>H

 2. We recommend that clinicians use pitolisant (versus no treatment) for the treatment of narcolepsy in adults. ^{B, D} (STRONG) ⊕⊕⊕⊕
B>H

 3. We recommend that clinicians use sodium oxybate (versus no treatment) for the treatment of narcolepsy in adults. ^{B, E} (STRONG) ⊕⊕⊕⊕
B>H

 4. We recommend that clinicians use solriamfetol (versus no treatment) for the treatment of narcolepsy in adults. ^{A, B} (STRONG) ⊕⊕⊕⊕
B>H

 5. We suggest that clinicians use armodafinil (versus no treatment) for the treatment of narcolepsy in adults. ^{A, B, C, D} (CONDITIONAL) ⊕⊕⊕⊕
B>H

 6. We suggest that clinicians use dextroamphetamine (versus no treatment) for the treatment of narcolepsy in adults. ^{B, F} (CONDITIONAL) ⊕⊕⊕⊖
B>H

 7. We suggest that clinicians use methylphenidate (versus no treatment) for the treatment of narcolepsy in adults. ^{B, G} (CONDITIONAL) ⊕⊕⊕⊖
B>H

- > **NO RECOMMENDATIONS WERE MADE FOR THE FOLLOWING TREATMENTS (due to insufficient and/or inconclusive evidence):** L-carnitine, scheduled naps, selegiline, triazolam, selective serotonin reuptake inhibitors (SSRIs), and serotonin-norepinephrine reuptake inhibitors (SNRIs)

TREATMENT OF IDIOPATHIC HYPERSOMNIA IN ADULTS

8. We recommend that clinicians use modafinil (versus no treatment) for the treatment of idiopathic hypersomnia in adults. ^{A, B, C, D} (STRONG) ⊕⊕⊕⊕
B>H

 9. We suggest that clinicians use clarithromycin (versus no treatment) for the treatment of idiopathic hypersomnia in adults. ^H (CONDITIONAL) ⊕⊕⊕⊕
B>H

 10. We suggest that clinicians use methylphenidate (versus no treatment) for the treatment of idiopathic hypersomnia in adults. ^{B, G} (CONDITIONAL) ⊕⊕⊕⊖
B>H

 11. We suggest that clinicians use pitolisant (versus no treatment) for the treatment of idiopathic hypersomnia in adults. ^{B, D} (CONDITIONAL) ⊕⊕⊕⊖
B>H

 12. We suggest that clinicians use sodium oxybate (versus no treatment) for the treatment of idiopathic hypersomnia in adults. ^{B, E} (CONDITIONAL) ⊕⊕⊕⊖
B>H

- > **NO RECOMMENDATION WAS MADE FOR THE FOLLOWING TREATMENT (due to insufficient and/or inconclusive evidence):** Flumazenil

TREATMENT OF KLEINE-LEVIN SYNDROME IN ADULTS

13. We suggest that clinicians use lithium (versus no treatment) for the treatment of Kleine-Levin syndrome in adults. ^{B, I} (CONDITIONAL) ⊕⊕⊕⊖
B>H

- > **NO RECOMMENDATION WAS MADE FOR THE FOLLOWING TREATMENT (due to insufficient and/or inconclusive evidence):** Intravenous methylprednisolone

REMARKS:

^A This medication is a Federal Drug Administration (FDA) Schedule IV federally controlled substance because of its potential for abuse or dependency.

^B Based on animal data, this medication may cause fetal harm. Human data are insufficient to determine risk.

^C A 2018 annual report of the ongoing armodafinil/modafinil Pregnancy Registry in the United States showed higher rate of major congenital anomalies, and other adverse reactions, in children exposed to the drug in utero.

^D This medication may reduce the effectiveness of oral contraception.

^E This medication has an FDA black box warning stating that it is a central nervous system depressant and may cause respiratory depression. It is an FDA Schedule III controlled substance and is the sodium salt of gamma hydroxybutyrate (GHB), a Schedule I controlled substance. Abuse or misuse of illicit GHB is associated with seizures, respiratory depression, decreased consciousness, coma, and death especially if used in combination with other CNS depressants, such as alcohol and sedating medications.

^F This medication is an FDA Schedule II federally controlled substance with a black box warning stating that it has a high potential for abuse and prolonged administration may lead to dependence.

^G This medication is an FDA Schedule II federally controlled substance and has a black box warning stating that it should be given cautiously to patients with a history of drug dependence or alcoholism.

^H This medication has an FDA alert on advising caution when using it in individuals with heart disease, because of the potential for increased risk of cardiac events and death in people with a history of myocardial infarction or angina. Additionally, because clarithromycin is an antibiotic, risks associated with antibiotic use (e.g., antibiotic resistance, superinfection) should be weighed when considering the use of clarithromycin for patients with idiopathic hypersomnia. Based on animal data, clarithromycin may cause fetal harm. Labelling states that clarithromycin should not be used by pregnant women.







^I This medication has a black box warning stating that lithium toxicity is closely related to serum lithium concentrations and can occur at doses close to therapeutic concentrations. The accessibility of facilities to conduct prompt and accurate serum lithium determinations should be determined before initiating therapy.

^J The drug is not FDA approved for patients <17 years based on a black box warning for Stevens-Johnson syndrome (SJS) and psychosis based on case reports in pediatric patients.





TREATMENT OF HYPERSOMNIA SECONDARY TO MEDICAL CONDITIONS

- > **NO RECOMMENDATIONS WERE MADE FOR THE FOLLOWING TREATMENTS (due to insufficient and/or inconclusive evidence):**
Hypersomnia secondary to endocrine disorder (Adults): Liraglutide
Hypersomnia associated with a psychiatric disorder (Adults): Modafinil and light therapy



TREATMENT OF HYPERSOMNIA SECONDARY TO ALPHA-SYNUCLEINOPATHIES IN ADULTS

14. We suggest that clinicians use armodafinil (versus no treatment) for the treatment of hypersomnia secondary to dementia with Lewy bodies in adults. ^{A, B, C, D} (CONDITIONAL) 
B>H

15. We suggest that clinicians use modafinil (versus no treatment) for the treatment of hypersomnia secondary to Parkinson's disease in adults. ^{A, B, C, D} (CONDITIONAL) 
B>H

16. We suggest that clinicians use sodium oxybate (versus no treatment) for the treatment of hypersomnia secondary to Parkinson's disease in adults. ^{B, E} (CONDITIONAL) 
B>H

- > **NO RECOMMENDATION WAS MADE FOR THE FOLLOWING TREATMENT (due to insufficient and/or inconclusive evidence):** Light therapy



TREATMENT OF POSTTRAUMATIC HYPERSOMNIA IN ADULTS

17. We suggest that clinicians use armodafinil (versus no treatment) for the treatment of hypersomnia secondary to traumatic brain injury in adults. ^{A, B, C, D} (CONDITIONAL) 
B>H

18. We suggest that clinicians use modafinil (versus no treatment) for the treatment of hypersomnia secondary to traumatic brain injury in adults. ^{A, B, C, D} (CONDITIONAL) 
B>H






TREATMENT OF GENETIC DISORDERS ASSOCIATED WITH PRIMARY CENTRAL NERVOUS SYSTEM SOMNOLENCE IN ADULTS

19. We suggest that clinicians use modafinil (versus no treatment) for the treatment of hypersomnia secondary to myotonic dystrophy in adults. ^{A, B, C, D} (CONDITIONAL) 
B>H

- > **NO RECOMMENDATION WAS MADE FOR THE FOLLOWING TREATMENT (due to insufficient and/or inconclusive evidence):** Methylphenidate and selegiline

TREATMENT OF HYPERSOMNIA SECONDARY TO BRAIN TUMORS, INFECTIONS, OR OTHER CENTRAL NERVOUS SYSTEM LESIONS IN ADULTS

20. We suggest that clinicians use modafinil (versus no treatment) for the treatment of hypersomnia secondary to multiple sclerosis in adults. ^{A, B, C, D} (CONDITIONAL) 
B>H


TREATMENT OF NARCOLEPSY IN CHILDREN

21. We suggest that clinicians use modafinil (versus no treatment) for the treatment of narcolepsy in pediatric patients. ^{A, B, C, D, J} (CONDITIONAL) 
B>H

22. We suggest that clinicians use sodium oxybate (versus no treatment) for the treatment of narcolepsy in pediatric patients. ^{B, E} (CONDITIONAL) 
B>H

- > **NO RECOMMENDATIONS WERE MADE FOR THE FOLLOWING TREATMENTS (due to insufficient and/or inconclusive evidence):** Intravenous immune globulin and commonly used treatments such as methylphenidate, amphetamines, scheduled naps, and SSRI/SNRI medications