

Clinical Policy: Armodafinil (Nuvigil), Modafinil (Provigil)

Reference Number: CP.CPA.105 Effective Date: 11.16.16 Last Review Date: 11.17 Line of Business: Medicaid – Medi-Cal

Revision Log

See <u>Important Reminder</u> at the end of this policy for important regulatory and legal information.

Description

Armodafinil (Nuvigil[®]) and modafinil (Provigil[®]) are central nervous system stimulants. Armodafinil is the R-enantiomer of modafinil.

FDA approved indication

Armodafinil (Nuvigil) and modafinil (Provigil) are indicated to improve wakefulness in adult patients with excessive sleepiness associated with narcolepsy, obstructive sleep apnea (OSA), and shift work disorder.

Limitation of use: In OSA, Nuvigil and Provigil are indicated to treat excessive sleepiness and not as treatment for the underlying obstruction.

Policy/Criteria

Provider <u>must</u> submit documentation (which may include office chart notes and lab results) supporting that member has met all approval criteria

It is the policy of health plans affiliated with Centene Corporation[®] that Nuvigil and Provigil **medically necessary** when the following criteria are met:

I. Initial Approval Criteria

- **A. All Indications** (must meet all):
 - 1. Confirmed diagnosis of one of the following:
 - a. Narcolepsy;
 - b. Obstructive Sleep Apnea (OSA);
 - c. Shift Work Disorder (SWD);
 - d. Multiple Sclerosis-related Fatigue;
 - 2. For Provigil requests, failure or clinically significant adverse effects to Nuvigil;
 - 3. Dose does not exceed: Nuvigil 250 mg/day; Provigil 400 mg/day.

Approval duration: Length of benefit

B. Other diagnoses/indications:

1. Refer to CP.PMN.53 if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized).

II. Continued Therapy

A. All Indications (must meet all):



- 1. Currently receiving medication via Centene benefit or member has previously met initial approval criteria;
- 2. Member is responding positively to therapy;
- 3. Dose does not exceed: Nuvigil 250 mg/day; Provigil 400 mg/day. Approval duration: Length of benefit
- **B.** Other diagnoses/indications (must meet 1 or 2):
 - 1. Currently receiving medication via Centene benefit and documentation supports positive response to therapy.
 - Approval duration: Duration of request or 12 months (whichever is less); or
 - 2. Refer to CP.PMN.53 if diagnosis is NOT specifically listed under section (Diagnoses/Indications for which coverage is NOT authorized).

III. Diagnoses/Indications for which coverage is NOT authorized:

A. Non-FDA approved indications, which are not addressed in this policy, unless there is sufficient documentation of efficacy and safety according to the off label use policy – CP.PMN.53 or evidence of coverage documents.

IV. Appendices/General Information

Appendix A: Abbreviation/Acronym Key OSA: Obstructive Sleep Apnea SWD: Shift Work Disorder

Appendix B: General Information

- Nuvigil is the R-enantiomer of Provigil. The apparent terminal half-life of Nuvigil is approximately 15 hours. For comparison, the effective elimination half-life of Provigil after multiple doses is also 15 hours.
- <u>Excessive Daytime Sleepiness (EDS) associated with Parkinson's disease (PD):</u> The literature supporting the use of Provigil for this indication consists of 2 randomized trials and one open-label study, all with small sample sizes and improvement in mostly subjective scales of sleepiness. One additional randomized trial found that Provigil did not significantly improve EDS compared to placebo. Based on the available data, the routine use of Provigil for the treatment of EDS associated with PD is not supportable at this time.
- Cephalon filed a sNDA for modafinil for the treatment of ADHD under the brand name of Sparlon®. The FDA deemed the medication non-approvable for the treatment of ADHD in children and adolescents up to 17 years of age due to safety concerns over high rates of serious adverse dermatological reactions.
- Overall results of studies evaluating the use of Provigil for ADHD support the efficacy of Provigil for this indication, especially in pediatric patients. However, due to the potential for serious rash, and especially in light of the FDA's no-approval of Sparlon citing this as one of the reasons, the routine use of Provigil for ADHD cannot be endorsed at this time.
- <u>For depression:</u> The lack of data supporting the use of Provigil for depression is consistent with findings from two evidence-based review articles, both of which state that there are "mixed findings". The author of one review assigns Provigil a "C" level of evidence with a caveat for level "B" evidence for SSRI non-responders with fatigue and/or hypersomnolence.

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- Provigil's warning section contains a bolded warning that reads in part, "Modafinil is not approved for use in pediatric patients for any indication." Pediatric is later defined as less than 17 years of age.
- Nuvigil's warning section states, "Armodafinil has not been studied in pediatric patients in any setting and is not approved for use in pediatric patients for any indication." Pediatric is later defined as less than 17 years of age.

Appendix C: Therapeutic Alternatives

Drug	Dosing Regimen	Dose Limit/Maximum Dose	
Amphetamine salts (Adderall [®])	Narcolepsy: 5-60 mg PO QD	60 mg	
Methylphenidate (Ritalin [®] , Methylin [®] , Ritalin SR ^{®)}	Narcolepsy: 10-60 mg PO QD	60 mg	
Dextroamphetamine (Dexedrine [®] , Dextrostat ^{®,} Dexedrine Spansule [®])	Narcolepsy: 5-60 mg PO QD	60 mg	

Therapeutic alternatives are listed as Brand name[®] (generic) when the drug is available by brand name only and generic (Brand name[®]) when the drug is available by both brand and generic.

V. Dosage and Administration

Drug Name	Indication	Dosing Regimen	Maximum Dose
Modafinil (Provigil)	Narcolepsy, Obstructive	200 mg PO QD	400 mg/day
	sleep apnea, Shift work		
	disorder.		
Modafinil (Provigil)	MS Fatigue	100-200 mg PO QD	400 mg/day
Armodafinil	Narcolepsy, Obstructive	150-250 mg PO QD	250 mg/day
(Nuvigil)	sleep apnea, MS Fatigue.		
Armodafinil	Shift work disorder	150 mg PO QD	250 mg/day
(Nuvigil)			

VI. Product Availability

Drug	Availability
Nuvigil	Tablets: 50 mg, 150 mg, 200 mg, 250 mg
Provigil	Tablets: 100 mg, 200 mg

VII. References

- 1. Provigil [Prescribing Information] North Wales, PA: Cephalon, Inc.: January 2015.
- 2. Nuvigil [Prescribing Information] North Wales, PA: Cephalon, Inc.; February 2017.
- 3. Practice parameters for the treatment of narcolepsy: an update for 2000. Sleep. 2001;24 (4):451-466.
- 4. US Modafinil in Narcolepsy Study Group. Randomized trial of modafinil as a treatment for the excessive daytime somnolence of narcolepsy. Neurology. 2000;54(5):1166-1175.
- 5. Pack AI, Black JE, Schwartz RL, Matheson JK. Modafinil as adjunct therapy for daytime sleepiness in obstructive sleep apnea. Am J Respir Crit Care Med. 2001;164:1675-1681.

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- Kingshott RN, Vennelle M, Coleman EL, et al. Randomized, double-blind, placebocontrolled crossover trial of modafinil in the treatment of residual excessive daytime sleepiness in the sleep/apnea/hypopnea syndrome. Am J Resp Crit Care Med. 2001;163:918-923.
- 8. Adler CH, et al. Randomized trial of modafinil for treating subjective daytime sleepiness in patients with Parkinson's disease. Movement Disorders. 2003;18(3):287-293.
- 9. Hogl B, et al. Modafinil for the treatment of daytime sleepiness in Parkinson's disease: a double-blind, randomized, crossover, placebo-controlled polygraphic trial. Sleep. 2002;25(8):62-66.
- 10. Nieves AV, Lang AE. Treatment of excessive daytime sleepiness in patients with Parkinson's disease with modafinil. Clinical Neuropharmacology. 2002;25(2):111-114.
- 11. Ondo WG, et al. Modafinil for daytime somnolence in Parkinson's disease: double blind, placebo controlled parallel trial. J Neurol Neurosurg Psychiatry 2005:76:1636-1639.
- 12. Stankoff B, Waubant E, Confavreux C, et al. Modafinil for fatigue in MS: a randomized placebo-controlled double-blind study. Neurology. 2005;64(7):1139-1143.
- 13. Roth T, et al. Effects of armodafinil in the treatment of residual excessive sleepiness associated with obstructive sleep apnea/hypopnea syndrome: A 12-week, multicenter, double-blind, randomized, placebo-controlled study in nCPAP-adherent adults. Clin Ther. 2005;28(5):689-706.
- 14. Harsh JR, et al. The efficacy and safety of armodafinil as treatment for adults with excessive sleepiness associated with narcolepsy. Curr Med Res Opin. 2006 Apr;22(4):761-774.
- 15. Hirshkowitz M, et al. Adjunct armodafinil improves wakefulness and memory in obstructive sleep apnea/hypopnea syndrome. Respir Med. 2007 Mar;101(3):616-627.
- 16. Roth T, et al. Randomized, double-blind placebo-controlled study of armodafinil for the treatment of excessive sleepiness associated with chronic shift work sleep disorder [Poster Presentation] Presented at the 44th Annual Meeting of the American College of Neuropsychopharmacology, Waikaloa, HI, December 11-15, 2005.
- 17. Rugino TA et al. Modafinil in children with Attention Deficit Hyperactivity Disorder. Ped Neuro 2003; 29(2):136-42.
- 18. Biederman J, et al. A comparison of once-daily and divided doses of modafinil in children with attention-deficit/hyperactivity disorder: a randomized, double-blind, and placebo-controlled study. J Clin Psychiatry. 2006;67:727-35.
- 19. Boellner SW, et al. Modafinil in children and adolescents with attention-deficit/hyperactivity disorder: a preliminary 8-week, open-label study. Curr Med Res Opinion. 2006;22(12):2457-65.
- 20. Biederman J, et al. Efficacy and safety of modafinil film-coated tablets in children and adolescents with attention-deficit/hyperactivity disorder: results of a randomized, double-blind, placebo-controlled, flexible-dose study. Pediatrics. 2005;116:777-84.
- 21. Greenhill LL, et al. A randomized, double-blind, placebo-controlled study of modafinil filmcoated tablets in children and adolescents with attention-deficit/hyperactivity disorder. J Am Acad Child Adolesc Psychiatry. 2006;45(5):503-11.

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- 22. Swanson JM, et al. Modafinil film-coated tablets in children and adolescents with attentiondeficit/hyperactivity disorder: results of a randomized, double-blind, placebo-controlled, fixed-dose study followed by abrupt discontinuation. J Clin Psychiatry. 2006;67:137-47.
- 23. Thase ME. Therapeutic alternatives for difficult-to-treat depression: a narrative review of the state of the evidence. CNS Spectrums. 2004;9(11):808-821.
- 24. Lam JY, et al. Modafinil augmentation for residual symptoms of fatigue in patients with a partial response to antidepressants. Ann Pharmacother. 2007;41:1005-12.
- 25. DRUGDEX System [Internet Database]. Greenwood Village, Colo: Truven Healthcare Analytics. Updated periodically. Accessed March 2017.
- 26. Provigil. American Hospital Formulary Service Drug Information. Available at: http://www.medicinescomplete.com/mc/ahfs/current/. Accessed March 2017.
- 27. Nuvigil. American Hospital Formulary Service Drug Information. Available at: http://www.medicinescomplete.com/mc/ahfs/current/. Accessed March 2017.
- 28. Clinical Pharmacology Website. Available at: http://www.clinicalpharmacologyip.com/Default.aspx. Accessed March 2017.
- 29. Health Net Clinical Pharmacy Advisory Committee Provigil Position Statement, April 2013.

Reviews, Revisions, and Approvals	Date	P&T Approval Date
Converted to new template. Minor changes to verbiage and grammar. References updated.	03.17.17	11.17

Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. "Health Plan" means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan's affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a



discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

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Note: For Medicaid members, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

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