

**WY-DUR**  
**Wyoming Drug Utilization Review Board**  
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Dear Doctor:

Modafinil (Provigil®) is a wakefulness-promoting agent with sympathomimetic actions similar to amphetamine and methylphenidate. Modafinil is FDA approved for excessive sleepiness associated with narcolepsy, obstructive sleep apnea/hypopnea syndrome and shift work sleep disorder. Side effects include headache, back pain, nausea, diarrhea, nervousness, insomnia, anxiety, dizziness, and dyspepsia with discontinuation rates of 8% due to adverse effects. In addition, Stevens-Johnson syndrome, leukopenia and agranulocytosis have been reported, although rarely.<sup>1</sup>

A review of Medicaid claims from January 1, 2006 through February 28, 2007 was conducted. This review included 852 claims for 165 patients for a total cost of \$197,568. A large number of the claims reviewed were for off-label indications including multiple sclerosis, depression, schizoaffective disorder, manic depression, intracranial injury, and opioid-induced fatigue.

A review of available literature on the off-label uses of modafinil was accomplished using a MEDLINE search, contact with the manufacturer, and a search of [www.clinicaltrials.gov](http://www.clinicaltrials.gov). The following were the results of this review:

<b>Indication</b>	<b>Number of Trials</b>	<b>Conclusions</b>
Major Depression <sup>2,3</sup>	2	No benefit
Seasonal Affective Disorder	0	
Multiple Sclerosis <sup>4,5</sup>	2	No benefit
Opioid-induced sedation <sup>6,7</sup>	2	No benefit
Brain Injury	0	
ADHD (adults) <sup>8,9</sup>	2	One study revealed no benefit, one study showed a benefit using a formulation that is not available in the U.S.
ADHD (Pediatrics) 10,11,12,13,14,15	7	Two trials revealed a benefit, two trials revealed no benefit, three trials revealed a benefit using a formulation that is not available in the U.S. The FDA gave a not approvable letter in August 2006 due to serious side effects
Cognitive performance during prolonged wakefulness <sup>16,17,18,19,20</sup>	5	Studies comparing modafinil to caffeine revealed no benefit

Due to the lack of supporting evidence for off-label utilization, modafinil should be used with caution, if at all, for these conditions. The cost of potentially inappropriate utilization of medications diverts available dollars from more appropriate uses, including provider reimbursement, and may lead to additional limits on prescription drug coverage.

Thank you for continuing to treat Wyoming Medicaid patients.

*Scott Johnston*

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