OVERVIEW
Sunosi, a dopamine and norepinephrine reuptake inhibitor (DNRI), is indicated to improve wakefulness in adult patients with excessive daytime sleepiness associated with narcolepsy or obstructive sleep apnea (OSA). Sunosi is a schedule IV controlled substance. Limitations of Use: Sunosi is not indicated to treat the underlying airway obstruction should be treated (e.g., with continuous positive airway pressure [CPAP]) for at least 1 month prior to initiating Sunosi for excessive daytime sleepiness. Modalities to treat the underlying airway obstruction should be continued during treatment with Sunosi. Sunosi is not a substitute for these modalities. The mechanism of action of Sunosi to improve wakefulness in patients with excessive daytime sleepiness associated with narcolepsy or OSA is unclear. Its efficacy is thought to be mediated through its activity as an inhibitor of dopamine and norepinephrine reuptake.

Armodafinil and modafinil are wakefulness-promoting agents with actions similar to sympathomimetic agents (e.g., amphetamine and methylphenidate). They are indicated to improve wakefulness in adult patients with excessive sleepiness associated with narcolepsy, OSA, or shift work disorder (SWD). Armodafinil and modafinil are Schedule IV controlled substances. For narcolepsy and OSA, they are dosed QD in the morning. For SWD, they are dosed QD as a single dose approximately 1 hour prior to the start of their work shift. Stimulant medications (e.g., amphetamine, methamphetamine, dextroamphetamine, and methylphenidate) are used off-label for the treatment of daytime sleepiness due to narcolepsy and OSA and are mentioned in guidelines.

Disease Overview
Narcolepsy is a rare, chronic neurologic disorder that affects the brain’s ability to control sleep-wake cycles. There are two types of narcolepsy: Type 1 narcolepsy (previously termed narcolepsy with cataplexy) and Type 2 narcolepsy (previously termed narcolepsy without cataplexy). People with narcolepsy usually feel rested after waking, but then feel very sleepy throughout much of the day. The most typical symptoms are excessive daytime sleepiness, cataplexy, sleep paralysis, and hallucinations. Sleepiness in narcolepsy is described as a “sleep attack”, where an overwhelming sense of sleepiness comes on quickly. People may unwillingly fall asleep even if they are in the middle of an activity like driving, eating, or talking. Symptoms can partially improve over time, but they will never disappear completely. If left undiagnosed or untreated, narcolepsy can interfere with psychological, social, and cognitive function and development and can inhibit academic, work, and social activities.

Two specialized tests, which can be performed in a sleep disorders clinic, are required to establish a diagnosis of narcolepsy. Polysomnogram (PSG) is an overnight recording of brain and muscle activity, breathing, and eye movements. The multiple sleep latency test (MSLT) assesses daytime sleepiness by measuring how quickly a person falls asleep and whether they enter rapid eye movement (REM) sleep. On the day after PSG, the patient is asked to take five short naps separated by two hours over the course of a day. If an individual falls asleep in < 8 minutes on average over the five naps, this indicates excessive daytime sleepiness. However, patients with narcolepsy also have an abnormally quick start.
to REM sleep. If REM sleep happens within 15 minutes at least two times out of the five naps and the sleep study the night before, this is likely an abnormality caused by narcolepsy.

OSA is a potentially serious sleep disorder, causing breathing to repeatedly stop and start during sleep. Several types of sleep apnea occur, but the most common is OSA. OSA occurs when the muscles in the back of the throat relax too much, inhibiting normal breathing. These muscles support structures including the soft palate, the uvula, the tonsils, and the tongue. When the muscles relax, the airway narrows or closes. Breathing may be inadequate for 10 to 20 seconds, lowering the level of oxygen in the blood and causing a buildup of carbon dioxide. The brain senses this impaired breathing and briefly awakens the patient from sleep so that the airway can be reopened. This pattern can repeat itself five to 30 times or more each hour, throughout the night. The disruptions impair the ability to reach the desired deep, restful phases of sleep, resulting in a sleepy feeling during the waking hours. OSA can cause severe daytime drowsiness, fatigue, and irritability; hypertension, which can increase the risk of coronary artery disease, heart attack, heart failure and stroke; and arrhythmias.

CPAP is the most uniformly effective therapy, and to date this is the only intervention for OSA shown to have a favorable impact on both cardiovascular and neurobehavioral morbidities. Oral appliances and surgical procedures to improve upper airway patency are successful in certain subsets of patients, but many do not receive adequate clinical benefit from these approaches. In addition, individuals treated with CPAP therapy may experience residual sleepiness, despite marked improvements in the apnea-hypopnea index. Therefore, medical therapies may be considered for the subsets of patients who will not or cannot use CPAP and for patients with residual sleepiness despite alleviation of upper airway obstruction during sleep by CPAP, oral appliances, or upper airway surgery.

**Guidelines**

The American Academy of Sleep Medicine (AASM) practice parameters for the treatment of narcolepsy and other hypersomnias of central origin (2007) list modafinil as an effective for treatment of daytime sleepiness due to narcolepsy (Standard) and Xyrem as effective for treatment of cataplexy, daytime sleepiness, and disrupted sleep due to narcolepsy (Standard). Amphetamine, methamphetamine, dextroamphetamine, and methylphenidate are considered effective for the treatment of daytime sleepiness due to narcolepsy (Guideline). Tricyclic antidepressants (TCAs), SSRIs, and venlafaxine may be effective for the treatment of cataplexy (Guideline). Selegiline may be an effective treatment for cataplexy and daytime sleepiness (Option). Standard recommendations are considered to be generally accepted patient-care strategies that reflect a high degree of clinical certainty based on Level I evidence or overwhelming Level II evidence. Guideline recommendations are considered to be patient-care strategies that reflect a moderate degree of clinical certainty based on Level II evidence or a consensus of Level III evidence. Option recommendations are considered to be patient-care strategies that reflect uncertain clinical use based on inconclusive or conflicting evidence or conflicting expert opinion. At the time this practice parameter was written, published studies involving armodafinil were limited.

The AASM has published recommendations for the medical therapy of OSA (2006). CPAP is the most uniformly effective therapy and is the only intervention for OSA shown to have favorable impacts on both cardiovascular and neurobehavioral morbidities. When the recommendation was published, there were no widely effective pharmacotherapies for individuals with sleep apnea, with the important exceptions of individuals with hypothyroidism or with acromegaly. Treating the underlying medical condition can have pronounced effects on the apnea/hypopnea index. Stimulant therapy leads to a small but statistically significant improvement in objective sleepiness.
POLICY STATEMENT
Prior authorization is recommended for prescription benefit coverage of Sunosi. This PA Policy also contains a Step Therapy component. When clinically appropriate, patients are directed to try one Step 1 agent (modafinil or armodafinil) prior to Sunosi (Step 2). All approvals are provided for the duration cited.

Automation: None.

RECOMMENDED AUTHORIZATION CRITERIA
Coverage of Sunosi is recommended in those who meet the following criteria:

FDA-Approved Indications

1. Excessive Sleepiness Due to Obstructive Sleep Apnea. Approve for 1 year if the patient meets one of the following criteria (A and B):
   A) The patient meets one of the following criteria (i or ii):
      i. Sunosi will be used in conjunction with continuous positive airway pressure (CPAP); OR
      ii. The patient is unable to initiate or tolerate CPAP therapy; AND
   B) The patient has tried generic modafinil or generic armodafinil.
      Note: An exception to this requirement is allowed if the patient has previously tried brand Provigil or Nuvigil.

2. Narcolepsy. Approve for 1 year if the patient has tried generic modafinil or generic armodafinil.
   Note: An exception to this requirement is allowed if the patient has previously tried brand Provigil or Nuvigil.

CONDITIONS NOT RECOMMENDED FOR APPROVAL
Sunosi has not been shown to be effective, or there are limited or preliminary data or potential safety concerns that are not supportive of general approval for the following conditions. Rationale for non-coverage for these specific conditions is provided below. (Note: This is not an exhaustive list of Conditions Not Recommended for Approval.)

1. Coverage is not recommended for circumstances not listed in the Recommended Authorization Criteria. Criteria will be updated as new published data are available.

REFERENCES

**HISTORY**

<table>
<thead>
<tr>
<th>Type of Revision</th>
<th>Summary of Changes*</th>
<th>TAC Approval Date</th>
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<tr>
<td>New Policy</td>
<td>--</td>
<td>07/10/2019</td>
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<tr>
<td>Selected revision</td>
<td>For both of the approval conditions (Excessive Sleepiness Due to Obstructive Sleep Apnea and Narcolepsy), addition of requirement to have tried generic modafinil or generic armodafinil. An exception to this requirement is allowed if the patient has previously tried brand Provigil or Nuvigil.</td>
<td>08/21/2019</td>
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* For a further summary of criteria changes, refer to respective TAC minutes available at: http://esidepartments/sites/Dep043/Committees/TAC/Forms/AllItems.aspx; TAC – Therapeutic Assessment Committee.