Sleep Apnea Info

What is Upper Airway Resistance Syndrome (UARS)?

The continuum of sleep-related breathing disorders: from Upper Airway Resistance Syndrome to Obstructive Sleep Apnea

What is Upper Airway Resistance Syn

There is a range of severity in Obstructive Sleep Apnea, ranging from mild to severe which based on how many airflow interruptions a person experiences per hour. Obstructive Sleep Apnea is also a progressive disorder that generally becomes worse as people age and/or gain weight.

Sleep-related breathing disorders fall along a continuum, with Benign Snoring on one end and Severe Obstructive Sleep Apnea on the other. Benign Snoring does not impact sleep quality or health. Even though benign snoring is usually occasional or mild, all snoring requires an actual sleep study to determine whether it is causing air-flow limitations, oxygen desaturations, or sleep fragmentation that negatively impacts the quality of one's sleep. Benign Snoring does not cause any of these issues and is thus not actually a true sleep-related breathing disorder. It is thus on the far end of the healthy side of the spectrum.

Another type of snoring, often called Chronic Snoring is typically louder and more regular than Benign Snoring. Chronic Snoring is usually characterized by some sleep disturbances, but not enough to warrant an Obstructive Sleep Apnea diagnosis. Chronic Snoring is often louder and more regular than Benign Snoring and is thus more disturbing to sleeping partners. Patients with Chronic Snoring can progress to Obstructive Sleep Apnea as they age and/or gain weight. Home sleep testing is necessary to first determined if a person's snoring is Chronic Snoring or actual Obstructive Sleep Apnea. It would be ideal to also do sleep testing every few years for people with Chronic Snoring to monitor it as the tendency for it to progress into OSA as one ages or gains weight is very common.

Upper Airway Resistance Syndrome (UARS) is next on the spectrum of sleep-related breathing disorders just after Chronic Snoring and before Sleep Apnea. UARS is a sleep-related breathing disorder in which a person's snoring or even silent airflow limitations cause frequent brief awakenings or "arousals" from deeper states of sleep to shallower states or to full awakenings.

It should be noted that the spectrum is not based solely on snoring itself or snoring volume. Some UARS patients do not even snore audibly at all; they simply experience increased breathing effort only which might appear as heavy, strained, or shallow breathing. The sleep test is the only way to get an accurate diagnosis.

Upper Airway Resistance Syndrome impacts sleep quality and can lead to excessive daytime sleepiness,

unrefreshed sleep, and morning headaches. It can also be associated with teeth grinding, jaw clenching, and TMD and facial pain. If you wake up frequently, have difficulty going to sleep or staying asleep, or are excessively tired during the day, you may have UARS or Obstructive Sleep Apnea and a sleep test in indicated.

Causes of Upper Airway Resistance Syndrome

UARS can result from many of the same factors underlying Obstructive Sleep Apnea, such as narrowed airway passages or the airway collapsing from the tongue and soft-tissue in the throat and mouth. Just as in Obstructive Sleep Apnea, UARS can result from jaw position, size, and shape, and it can also be related to tongue and neck size. However, UARS often affects people who do not present as overweight. It is also more equally distributed in both genders, while Obstructive Sleep Apnea is more common in men.

Pregnant women in their third trimester can develop pregnancy-related UARS, or even Obstructive Sleep Apnea as they gain weight. Increases in estrogen and progestogen levels contribute to capillary engorgement and can result in narrowing of the nasal passages and throat. Changes in chest and abdominal anatomy, such as diaphragm elevation, are also believed to contribute to pregnancy-related UARS or OSA.

Nasal congestion, sinus disease, or chronic allergies can also contribute to UARS as the nasal and throat passages may be narrowed and lead to increased resistance while breathing.

Diagnosis and misdiagnosis of UARS

The most common complaints from patients with undiagnosed Upper Airway Resistance Syndrome are daytime fatigue, morning headaches, and/or insomnia. These symptoms occur because the brain is aroused continually from deep sleep during increased breathing effort, resulting in fragmented sleep that leaves the patient unrefreshed upon waking.

UARS sufferers seeking professional help for their symptoms are often misdiagnosed with chronic fatigue syndrome, migraines, fibromyalgia, or depression. This may happen because many of the typical signs of Obstructive Sleep Apnea like obesity, male gender, or large neck size might not be present, and so a formal sleep study is overlooked. Recommendations, medications, and other treatments are issued, but the real problem remains undiagnosed.

It is also possible for patients to undergo sleep studies and still not be diagnosed with UARS if the sleep physician is looking strictly at the AHI number only for sleep apnea. Sleep Apnea is diagnosed when the AHI reaches five, which means that there are five major breathing disturbances per hour. However, with UARS, it is more common to have fewer or none of these major disturbances, which are either apneas and hypopneas.

With UARS, it is more common to have Respiratory-Effort-Related Arousals instead, which are minor disturbances that do not count toward the AHI, but still impact overall sleep quality. Respiratory-Effort-Related

Arousals contribute to a different sleep score, called the Respiratory Disturbance Index (RDI). The RDI is not routinely used by doctors to diagnosis sleep apnea or by insurances companies to reimburse sleep apnea treatments.

For patients with Upper Airway Resistance Syndrome, the AHI and even the RDI can be low, but viewing the patient's sleep patterns nonetheless reveals clear and consistent air-flow limitation patterns. Hence, emphasizing AHI scores over actual sleep patterns can result in misdiagnosing cases of UARS.

It is important for patients who complain of fatigue, headaches, and/or depression to ask specifically for Upper Airway Resistance Syndrome screening in their sleep studies when no formal diagnosis is given due to low AHI or RDI scores.

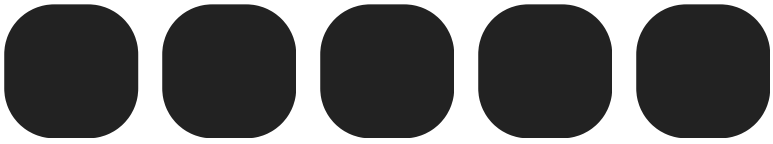
Treatment of UARS

It is more common to treat UARS with Oral Appliance Therapy and sleep hygiene modifications than with surgery or CPAP machines. If nasal obstructions or allergies are involved, an Allergist and ENT may provide combination therapy along with our Oral Appliances. Oral Appliances are specialized night-guards that hold the jaw in a slightly forward position, which helps open the airway and alleviates the resistance to airflow that causes UARS.

San Francisco Dental Sleep Medicine offers Oral Appliance Therapy as our primary approach to treating UARS and OSA. Click here to schedule a complementary consultation with Dr. Douglas Chenin. Dr. Chenin will review any questions you may have, facilitate sleep testing, and help determine if you would benefit from Oral Appliance Therapy.

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