

## UARS (Upper Airway Resistance Syndrome)

UARS is a common but rarely diagnosed problem that causes significant sleep disruption.

It is easiest to think of Upper Airway Resistance Syndrome (UARS) as severe snoring. However, there are times when UARS can occur with little noise, particularly in children.

UARS is a condition when the air passageway narrows so much that chest muscles and diaphragm have to work very hard to pull air into the lungs. UARS is at the midpoint of severity in breathing disorders between snoring and obstructive sleep apnoea. As snoring gets worse, it becomes UARS. Untreated UARS can evolve into obstructive sleep apnea.

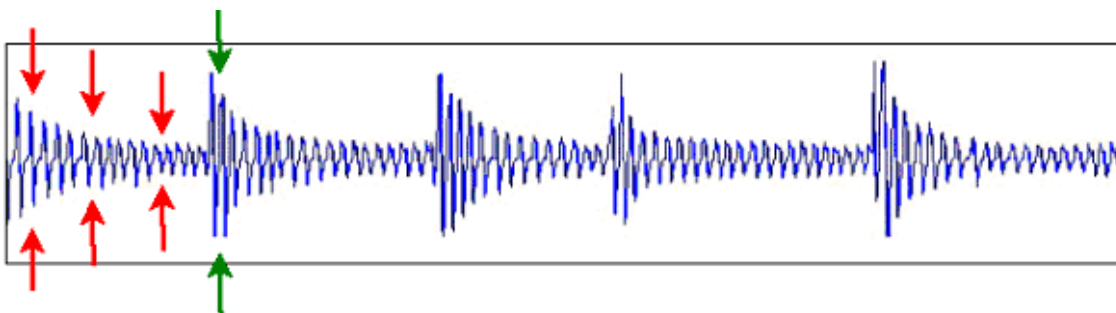
*There are some major differences between those with sleep apnoea and people suffering from UARS.*

1. While sleep apnoea is more common in men, women are as likely to suffer from UARS as men.
2. While people with sleep apnoea are more likely to be overweight, it is common for UARS sufferers to be of normal weight.
3. Chronic insomnia with frequent awakenings and difficulty resuming sleep are more common in those with UARS than with sleep apnoea.

### Consequences of Upper Airway Resistance Syndrome

*To understand the difficulty that someone with UARS has with breathing, try to imagine breathing for an extended period of time through an opening no larger than a small soda straw.*

This process of UARS breathing can be seen in the nasal air flow tracing shown below which was obtained with a device fastened underneath the nose that measures airflow during sleep.



This airflow tracing shows a record of the inhalations and exhalations over a five minute period of time. Notice how the air flow gets progressively more and more restricted (*red arrows*). This increasing restriction takes place as this UARS sufferer progressively goes deeper and deeper into sleep and the airway slowly collapses with increased muscle relaxation. When the effort of inhalation gets too extreme, this UARS sufferer arouses from a deeper level of sleep, takes a few easy, deep breaths (*green arrows*), and starts the process all over again. In this period of five minutes, this repetitive arousal process occurs about once a minute.

## Diagnosing UARS

*UARS is often mistaken for other conditions and is frequently overlooked by those suffering from it*

UARS is the orphan child of sleep medicine since far more emphasis is placed on its more attention-getting sibling, obstructive sleep apnea. However, all of the symptoms attributable to obstructive sleep apnea can also be attributed to UARS.

Upper Airway Resistance Syndrome commonly masquerades as:

**Chronic fatigue syndrome** – severe, continued tiredness that is not relieved by rest and is not directly caused by other medical conditions.

**Fibromyalgia** – a common syndrome in which a person has long-term, body-wide pain and tenderness in the joints, muscles, tendons, and other soft tissues. Studies show that the vast majority of fibromyalgia sufferers have undiagnosed UARS. When UARS is properly managed, fibromyalgia pain can dramatically decrease.

**Migraine** – a common type of headache that may occur with symptoms such as nausea, vomiting, or sensitivity to light.

**Depression** – described as feeling sad, blue, unhappy, miserable, or down in the dumps. When children don't get enough sleep they get hyper and cranky. When adults don't get enough sleep over a prolonged period of time, depression can easily set in. Sadly, mental health professionals rarely evaluate their patients for difficulty breathing during sleep.

Women in the third trimester of pregnancy will often develop UARS as they experience weight gain.

Studies have estimated that 14 percent of women snore, while 28 percent of pregnant women snore. Studies have shown that managing UARS during pregnancy relieves the symptoms of pre-eclampsia.

People with UARS get reports from their physician that their blood pressure is rising, requiring blood pressure medication to get it under control. However, sleep studies are rarely done to find the underlying problem taking place during sleep.

Those who snore and experience daytime fatigue and sleepiness often are sent to the sleep lab to check for the presence of sleep apnoea. Many times these patients don't stop breathing often enough to get a diagnosis of sleep apnea. The conclusion is usually made that sleep isn't the reason why they feel so bad. Since UARS is much more difficult to diagnose and since insurance companies rarely reimburse for the management of UARS, sleep physicians rarely pay much attention to this common condition.

#### Treatment of UARS

UARS can be predictably managed in most patients with an intraoral device during sleep.

*UARS is often caused by a narrow upper airway which can be the cause of other problems including headaches, neck pain, chest tightness, problems swallowing, and TMJ pain.*

#### Help Diagnose Yourself

At Robina Town Dental, home sleep monitoring has two important roles. First, home sleep recorders are a wonderful way to screen for obstructive sleep apnea without having a sleep study, called a polysomnogram (PSG), done in a sleep laboratory. While only a PSG can give an official diagnosis for obstructive sleep apnea, our home sleep



recorder provides important information regarding your sleep, your oxygen levels during sleep and can let us know if a visit to a sleep lab is necessary.

### Check the Results of Treatment

Secondly, home sleep monitoring allows us to verify the success of oral appliance therapy in the patients we treat. Oral appliance therapy should never be performed without a follow-up to confirm the level of success of the therapy. The home sleep recorder ensures that we accurately measure the level of success of our therapy.

### Common Related Symptoms

If any of these symptoms trouble you while you sleep, you could have a sleep-related breathing disorder.

### Snoring During Sleep

Due to the serious consequences of sleep suffocation, medical experts consider loud snoring to be sleep suffocation unless otherwise proven.

#### *Gasping for Breath During Sleep:*

Sleep suffocation sufferers sometimes dream of not being able to breathe or dream of drowning.

#### *Frequent Night-time Urination:*

This is the body's way of lowering spiking blood pressure. By dumping fluid, the total body fluid is lowered and blood pressure comes down.

#### *Lack of Dreaming:*

Many sleep apnea and upper airway resistance sufferers have a very difficult time getting to REM sleep where dreaming occurs.

Sleep disorders don't just affect you at night. These symptoms can occur during the day and can be caused by problems with sleep and breathing.

### Daytime Sleepiness or Fatigue:

While many sleep apnea sufferers experience daytime sleepiness, up to 50 percent of sufferers have no symptoms.

#### *Depression:*

Little children get grumpy when they don't get enough sleep. Big people are no different!



*Morning Headaches:*

This is frequently the result of night time elevation of blood pressure. Sometimes people clench their teeth while fighting for air which can cause headaches.

*High Blood Pressure:*

Not being able to easily get air causes the body's alarm to sound. The fight or flight mechanism goes into effect and blood pressure rises.

*Impotency:*

It is not understood specifically why sleep apnoea sufferers more frequently experience impotency. However, increased sleepiness and fatigue rarely contribute to an amorous mood!

*Heartburn:*

When someone is fighting for air during sleep, there is a tremendous negative intra-thoracic air pressure generated. This negative air pressure within the chest can actually cause the stomach contents to be sucked up during sleep.

*Type Two Diabetes:*

People with sleep-related breathing disorders are much more likely to develop type two diabetes because they have fragmented sleep. This fragmented sleep impairs their ability to access slow wave sleep where a great deal of glucose regulation takes place. Diabetics who have undiagnosed sleep apnoea often find that it is much easier for them to regulate the blood sugar levels after their sleep apnea is properly managed.

*Cardiovascular Disease:*

There are many mechanisms that make cardiovascular disease a serious consequence of sleep-related breathing disorders, but none more important than the increase in blood pressure that results from the repetitive fight for oxygen during upper airway collapse.

*Stroke:*

Sleep apnoea sufferers are 20 percent more likely to have a stroke. The same mechanisms that cause cardiovascular disease also implicate sleep apnea as a significant risk factor in stroke. 50 percent of people who have a stroke also have obstructive sleep apnoea.