

## Tired of Being Tired?

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Are you tired all the time, no matter how long you sleep? Do you suffer from unexplained, recurrent or prolonged infections or colds that just won't go away? Do you continue to get sick despite being on multiple medications and antibiotics? Have you undergone various tests, with no definitive answers? If so, you could have upper airway resistance syndrome (UARS).

UARS was first described by researchers at Stanford University in 1993. They described a group of young women and men who complained of chronic fatigue and excessive daytime somnolence. They all underwent a formal sleep study, and all were found not to meet the official criteria for obstructive sleep apnea. However, by treating them as if they had obstructive sleep apnea, most improved significantly.

This is probably the most common condition that I see in my ear, nose and throat practice. Despite most of my patients coming in to see me for routine, ear, sinus and throat problems, in the vast majority of cases, UARS can cause if not aggravate many of the above medical conditions. In contrast to medical specialists, I as an ENT physician and surgeon have an advantage: I can see the upper airway with a thin fiberoptic camera.

The information in this report is the culmination of almost 10 years worth of experience in my practice which is devoted almost entirely to sleep-breathing conditions. It's one thing to be able to describe the condition and the significant physical exam findings that are routinely found, but what amazed me was what happened when the upper airway narrowing was definitively addressed, either medically or surgically. Besides routine sinus problems or improving headaches, non-ENT conditions such as anxiety, depression, high blood pressure, cold hands, and diarrhea all improved as well. My entire practice philosophy was changed with the sole purpose to open up any kind of narrowing (from structural reasons or from inflammation) from the tip of the nose to the voice box. Helping you breathe better which helps you to sleep better, which allows you to ultimately live better.

### **Different From OSA**

To understand UARS, you must first understand obstructive sleep apnea.

Obstructive sleep apnea is a well-known sleep related breathing problem where you literally stop breathing at night during sleep due to total collapse of your throat tissues in the throat. This can occur anywhere from a few times every hour to over 100 times every hour. By definition, an "apnea" is defined a total stoppage of breathing for 10 seconds or more. "Hypopnea" is restricted breathing with greater than 30% chest wall movement decrease and blood oxygen drop more than 4%, for 10 seconds or more. The total combination of apneas and hypopneas for the entire night, divided by the total number of hours you sleeps, gives you the apnea hypopnea index, or AHI. This is the most commonly used measure to diagnose obstructive sleep apnea. Untreated, OSA can lead to hypertension, diabetes, obesity, depression, lack of sexual desire, heart disease, heart attack or stroke.

Despite all that we know, it's estimated that about 80-90% of people with OSA are not diagnosed in this country. The problem is that most doctors still think that you have to be a male, overweight, obnoxious snorer (MOOS) to have OSA. This is one of the most common myths that prevents people with high blood pressure or heart disease to get treated properly. It's been shown that you can be a young, thin woman who doesn't snore, and still have OSA. Even when someone you know snores like a chainsaw

or rattles the house, most people just laugh it off or use ear plugs to cover up the sounds. The second myth is that there's such a thing as benign snoring. I believe all snoring implies that you have (or will develop in the future) partially obstructed breathing, which has consequences on your sleep quality. The third myth is that snoring comes from the nose. Yes, the nose can aggravate snoring, and in some people, opening up the nose does help the snoring, but in most people the source of the snoring is in the throat (the tongue and/or soft palate).

Unlike obstructive sleep apnea, where you have obstruction, apnea, then arousal, UARS people have mostly obstruction and arousals. As mentioned previously, all UARS patients have some form of fatigue. Almost all state that they are "light" sleepers, and almost invariably, they do not like to sleep on their backs. In some cases, they absolutely cannot sleep on their backs. Some people attribute their poor quality sleep to insomnia, or stress or working too much.

Due to repeated arousals at night, especially during the deeper levels of sleep, you may be unable to get the required deep restorative sleep that you'll need to feel refreshed in the morning. In most cases, the anatomic reason for this collapse is the tongue. There are many reasons for the tongue to obstruct, including a large tongue or being overweight, but once it occurs, the only thing you can do is to wake up.

### **Why It's Important to Breathe Through Your Nose**

Although not the main cause of snoring, it's important to breathe well through your nose for various reasons. First, if your nose is slight stuffy, as you breathe in, a slight vacuum effect is created, which promotes easier tongue or soft palate collapse, especially in deep sleep. Many people blame a "deviated septum" as a source for many of their nasal and sinus conditions, but the fact is that everyone has at least a slight deviated septum. What's actually more important is what's happening with your nasal turbinates, which are wing-like structures that are on the side of your nose. These structures help to smooth, warm and humidify the air that you breath. If you have any degree of inflammation due to colds or allergies, then due to turbinate swelling, you feel more stuffed up. If you have a narrow nasal tip, or if your nostrils were weakened from previous rhinoplasty, your nostrils may collapse as you breathe in (called nasal valve collapse), aggravating this vicious cycle.

Before undergoing any kind of nasal surgery for congestion, check to make sure you don't have nasal valve collapse. Try nasal dilator strips (BReathe Rite is one brand), or various internal nasal dilator clips (Nozovent is one brand). Another quick test that you can do is place both index fingers just beside your nostrils and while gently pushing on your cheeks, push your cheek skin up and out, toward the outer corners of your eyes. The right finger goes to the right outer corner of your eye, and vice versa. Breathe in while performing this procedure and see if your breathing is much improved. Not addressing this is one of the most common conditions that's not addressed when people undergo nasal surgery for congestion.

Your nasal and sinus passageways also make nitric oxide, which when carried into your longs, Nitric oxide helps to open up blood vessel, thereby improving oxygen absorption in your lungs by about 10%. Guess what happens when you breathe only through your mouth. You're only getting 90% of the oxygen that you need.

### **Can't Get Deep Sleep**

In the deeper levels of sleep, and especially during REM sleep, the normal protective levels of muscle tone that keeps the airway open during inhalation drops. So if your airway is narrow to begin with and you take a deep breath in, a vacuum-like pressure is set up, and the back of your tongue can fall back completely. In many cases, whenever I examine this narrowed airway with the patient laying flat on his or her back, all I see is an 1-2 mm slit between the back of the tongue and the throat. When awake, you're fine, but once you start to fall asleep, the tongue falls back, and you wake up. This is why many people can't fall asleep on their backs, and therefore have unconsciously trained themselves to roll over to their sides or stomach, where tongue collapse is less likely (but still can happen). This can happen 10, 20 or 30 times every hour, preventing you from sustaining deep sleep. You may realize that you are waking up sometimes, but the vast majority of arousals are subconscious (from deep to light sleep).

If this happens for a few night in a row, and you return to your normal sleep habits, then you're fine, but if it occurs months to years continuously, then certain events may occur: Due to the repetitive arousals, your body goes into a chronic state of low-level stress. Think about what would happen if someone poked you with a finger every few minutes while you tried to sleep for 6 months straight. Think about how you would feel the next morning. Think about how you would feel after months or years of inefficient sleep: you would feel tired, groggy, with no motivation to do anything, have focus or concentration problems, or even feel depressed.

## **I Sleep Fine**

Some of you will say that you have no problem sleeping at all—that you can fall asleep as soon as you hit the pillow and not wake up for 9-10 hours. Well, that's a problem. If you fall asleep too quickly or if you sleep for 9-10 hours and don't feel refreshed, that means that you can't sleep efficiently. Studies have shown that if you don't sleep long enough (5-6 hours) or if you sleep too long (9-10 hours), then you'll have a much higher chance of developing depression and heart disease. On the other hand, people who take naps in the afternoon are healthier than people who don't.

## **Blame It On Stress**

Physiologically, these multiple arousals also affect your autonomic nervous system (AMS). The AMS is the internal nervous system that regulates your internal body functions such as digestion, breathing, heart rate, blood pressure, etc. It's divided into two parts: the sympathetic and parasympathetic parts. When you are frightened or running away from a bull, your heart rate and blood pressure goes up, your vision and hearing are very sensitive, and all your blood flow and energy are mobilized to run or fight. These functions are activated by the sympathetic nervous system. All the blood is pooled to your central large muscle and to the heart and brain, and taken away from your bowels, reproductive organs, and your hands and feet. After a good meal, your digestive organs kick in and begin to break down your food, and you feel sleepy. This is your parasympathetic nervous system working. Your autonomic nervous system is in a constant state of relative balance between the two, depending on what you are doing.

Imagine if you are stressed because you keep waking up at night for years. Your sympathetic nervous system starts to become overly activated, and stays activated, even when awake. A number of events can then occur:

**Cold Hands:** Your hands or feet can feel cold or numb in general, aggravated by cold temperatures or stress. Some people sleep with mittens or socks all year round. This condition is called Raynaud's phenomenon, and is very common. There are a number of different theories as to why so many people have this condition and why it happens, but there is no definitive cure. Since you're under stress, your body thinks that it is under attack, and shunts blood from your peripheries to the more central muscles and to the heart, so that you can run or fight more effectively. This actually may validate the saying, "cold hands, warm heart".

**Chronic Gastrointestinal Problems:** Similarly, since you don't need to digest food when you are fighting, blood gets shunted away from your entire gastrointestinal system to the heart and muscles, leading to chronic diarrhea, constipation, indigestion, acid reflux, or bloating. Remember the last time you were stressed? How well were you able to eat or digest food if you had just eaten? We already know that stress can aggravate acid production in the stomach.

**Acid Reflux:** In addition to chronic gastrointestinal problems, many people with UARS also have LPRD, or laryngopharyngeal (throat and voice box) reflux disease. It is somewhat different than GERD (gastro-esophageal reflux disease). In most cases you won't feel any heartburn or the classic symptoms associated with GERD. The common complaints include one or many of the following: chronic throat clearing, post-nasal drip, hoarseness, cough, throat or ear pain, lump in the throat, difficulty swallowing, tightness or pain with swallowing. Studies have shown that once acid reaches the throat, it can also go into the lungs (causing or aggravating asthma or bronchitis), and even into the nose and ears, causing or aggravating nasal congestion, sinus or ear infections. Pepsin, one of the stomach's digestive enzymes, and even *H. pylori*, a bacteria that can cause stomach infections, have been found in the ears and nasal cavity in people with infections in this area. Any degree of swelling or irritation blocking the very narrow ear or sinus openings can cause pressure build-up or infections.

**Low Blood Pressure:** A study showed that about 23% of people with UARS have low blood pressure, sometimes dangerously low. In addition, These people are frequently lightheaded or dizzy, aggravated by standing up too soon. This is called orthostatic hypotension. Even if the blood pressure is normal, you may still be more prone to episodes of dizziness (orthostatic intolerance). The recurrent periods of stress may confuse your AMS, so it doesn't respond to the changes in blood flow and head position appropriately or quickly enough.

**Sinus Infections:** Chronic or recurrent sinus pressure or pain which can be debilitating. Frequently, patients are seen multiple times for recurrent sinus infections, given antibiotics which helps only temporarily. In many cases migraines can masquerade as a sinus headache, without the classic symptoms. Your nose is also regulated by the two opposing parts of the AMS. Studies have shown that there is an imbalance of the parasympathetic and sympathetic nervous systems in the nose with obstructive sleep apnea. Many people with either OSA or UARS have chronically runny or stuffy noses with post-nasal drip, and are prone to sinus headaches and infections. This process, in addition to the acid exposure described earlier, is a very good reason for chronic nasal or sinus abnormalities.

**Migraine Headaches & TMJ:** Classic migraine and headaches are frequent in UARS along with TMJ problems due to grinding or clenching the teeth. Sometimes these sinus headaches and pressure respond to decongestants, and sometimes to anti-migraine medications. One does not have to have the typical "migraine" headache to have one: a recent study revealed that most cases of self-diagnosed sinus headaches are really migraines. Regardless of what comes first (chicken or the egg), one probably aggravates the other, leading to a vicious cycle. TMJ can also give you ear pain, headaches

along the side of your head, and it can wear down your teeth.

**Depression, Anxiety or ADHD:** For obvious reasons, long-term sleep deprivation (especially deep sleep deprivation with multiple arousals), can lead to any of these conditions. I think you'll agree with me that chronic deep sleep deprivations and elevated stress levels can ultimately lead to changes in your brain chemistry.

**Weight Gain and Immunity:** Stress increases your cortisol levels, which promotes weight gain, insulin resistance, and lowers your immune system's ability to fight infections. It also makes you crave sugars and carbohydrates. This is why some people eat healthy and exercise regularly, but are unable to lose weight.

**Insomnia:** Most of the textbooks treat insomnia as a separate medical issue, but think about what happens then you keep waking up just as you're about to fall into deep sleep, if you're prone to UARS. Notice how your mind can race, especially if you're stressed about something. Numerous studies have shown that insomnia can predict future depression, and heart disease.

### **Sleep Position, Bathroom Trips, and Your Future**

In addition to the above, almost invariably, people with UARS prefer not to sleep on their backs. Many people state that if they try, they choke as they fall asleep, or just keep waking up. Over the years, they have trained themselves to sleep on their side or stomach. Even then, they still obstruct and wake up to a certain degree. Many people also state that they have crazy or vivid dreams, or sometimes no dreams at all. This is because when you wake up while you are dreaming in the REM stage, you will remember your dreams vividly. By definition, all dreams are wild and vivid. Only because you tend to wake up more frequently while you are dreaming do you remember your dreams more vividly. Some people wake up as they begin to enter the dreaming stage, so they never dream at all.

Some others blame their frequent arousals to having to go to the bathroom. One thing to note is that inefficient sleep with increased stress hormones promotes urine production. Another interesting study recently showed that in a large group of people who wake up frequently to go to the bathroom, using very sensitive instruments, they showed that people wake up because they stop breathing, and not because they had a full bladder.

Family history is also very important. This is one way I gauge what the patient may look like in 20-40 years. In many cases, patients with either UARS or OSA have one or both parents that snore severely, with one or many cardiovascular complications, such as obesity, diabetes, hypertension, or heart disease. If one parent is noted to have had a heart attack or stroke in their 40's or 50's, then I take the patient's condition more seriously.

### **Do You Have UARS?**

The natural course of UARS is highly variable, with some patients remaining unchanged for years or decades, or others slowly progressing into OSA. Some older overweight women in their 50's or 60's with OSA tell me that they were very thin in their 20's, and had cold hands, low blood pressure, chronic diarrhea, dizziness, etc., and now do not have any of these conditions, except that now she has normal or high blood pressure, snoring and severe fatigue (classic OSA).

What seems to aggravate UARS symptoms most, however, is a relative change in their lives. Relative weight gain, even 5-10 pounds, can aggravate the symptoms, which gets better once the weight has stabilized, as the body adjusts and accommodates to the new weight. A bad cold or infection can also aggravate these symptoms, since it causes swelling, which narrows the upper airway. UARS people, who are already living on the “edge”, tend to have more prolonged or severe colds, as airway swelling causes more narrowing and anatomic collapse, which aggravates throat acid reflux, causing more swelling, perpetuating the vicious cycle. At a certain point, the body cannot adjust, and the vicious cycle is self-perpetuating. Poor sleep aggravates weight gain (for reasons described here), and weight gain narrows the throat even more, causing more obstruction and arousals. Stress is also a big factor—emotional, psychological, or physical. Whether the stress is internal or external, the body behaves the same way.

On a personal note, my wife has many features of UARS (cold hands, low blood pressure), but after each of her two pregnancies, her UARS symptoms were greatly exaggerated. After our first son, she had severe “post-partum depression” for almost one year. Only after she lost her entire pregnancy weight did she feel back to normal. After our second son was born, for four months, she was severely lightheaded and dizzy, to the point of being not able to function properly. She saw a number of doctors, and even had to go the emergency room because doctors thought she may be having a stroke. The only objective finding was that her low blood pressure, which was low to begin with, was even lower. Only after she lost her entire pregnancy weight did this condition subside. Sure enough, when I looked at her airway lying down, she had the typical very narrowed airway behind the tongue. Furthermore, her father has known moderate OSA, with diabetes.

### **Exciting Possibilities**

One interesting study looked at UARS and its possible association with the "somatic" syndromes. This includes a wide-ranging list of medical conditions including chronic fatigue syndrome, fibromyalgia, irritable bowel syndrome, and so on. Not all patients with the above conditions have UARS, but based on this paradigm, I think it's safe to say that a small but significant number of people with these conditions actually have UARS instead. People with these "somatic" syndromes all have in common some form of chronic fatigue, as well as an inability to sleep well. Obviously, more scientific study is needed in this area.

As you can see, UARS can potentially explain many symptoms. Typically, patients see multiple doctors for various complaints, without ever finding complete relief. In the end, some even lose faith in Western (allopathic) medicine and look elsewhere in alternative or complementary forms of treatment. UARS is a treatable condition. In my book, *Sleep, Interrupted: A physician reveals the #1 reason why so many of us are sick and tired*, I describe in more detail why UARS is so much more common these days than usual, ways to determine if you have this condition, and steps you can take to finally breathe better, sleep better, and have a better life again. To find out more information or to order the book, go to <http://www.sleepinterrupted.com>. It's been endorsed by multiple New York Times best selling authors Dr. Christianne Northrup, Dr. Dean Ornish, and Mary Shomon. Read what these authorities and others had to say:

"There are many good books on better breathing. But none of them address why you need to breathe well when sleeping. Let Dr. Steven Park, an ENT physician, show you how you can breathe better while sleeping. Not only will this improve your energy, it can also save your life."

• **Christiane Northrup, M.D.**, Author of New York Times bestseller, *The Wisdom of Menopause*.

"Both patients and physicians must read Dr. Park's unique and enlightening perspective on health issues related to poor breathing."

• **Dean Ornish, M.D.**, Author of New York Times bestseller, *Dr. Dean Ornish's Program for Reversing Heart Disease*.

"The unique concepts presented by Dr. Park questions traditional models of health and disease and challenges physicians and patients alike to be inspired towards better health."

• **Mark Liponis, M.D.**, co-author of New York Times Bestseller, *Ultraprevention*

"Dr. Park's revelation of the vicious cycle of interrupted sleep and health problems turns the medical community on its head. More importantly, it provides answers for so many who struggle to understand why they feel so lousy, and how they can feel better."

• **Jacob Teitelbaum, M.D.**, leading authority on chronic fatigue syndrome, author of best-seller, *From Fatigued to Fantastic*

"Many physicians treat only the symptoms of illness. Dr. Park carefully identifies what is causing millions of us to be sick, and shows us how to get and stay healthy and happy."

• **James, O'Keefe, M.D.**, author of *The Forever Young Diet and Lifestyle*

"Dr. Park's book offers not only a fascinating look at the critical role sleep plays in health and wellness, but practical advice to help resolve health- and energy-sapping sleep problems."

• **Mary Shomon**, author of the New York Times bestseller, *The Thyroid Diet: Manage Your Metabolism for Lasting Weight Loss*

"So many health problems result from sleep interrupted by breathing problems, poor sleep position, and other causes, yet few physicians make the connection and treat accordingly. This book will begin to change that and lead people to better health."

• **Eric Braverman, M.D.**, Author of the bestselling book, *The Edge Effect*

"Sleep Interrupted" is a seminal manuscript which not only reviews the upper airway anatomy and physiology in a concise reader-friendly fashion, but more importantly postulates associations between poor sleep and some everyday maladies in a manner heretofore unaccomplished. This is must reading for anyone who sleeps or breathes."

• **Stephen Lund, M.D.**, Co-Director, Sleep Disorders Institute, New York City

"The concepts in this book hold so much promise for a Kuhnian paradigm shift in the knowledge and practice of conventional medicine."

• **Dorothy Hung, Ph.D.**, Assistant Professor, Department of Sociomedical Sciences, Mailman School of Public Health, Columbia University

"Billions of dollars are spent every year in ICUs throughout the United States, attempting to treat and salvage patients at the end stage of chronic conditions. In contrast, very little time and effort is invested, in the education of the lay public, in recognizing and treating sleep disorders that can lead to a number of these chronic conditions. This outstanding and simply written book does just that. A must read."

• **Anita Bhola, M.D., FCCP**, Attending Physician, Critical Care Medicine, Sleep, Pulmonary and Critical Care Medicine, Assistant Professor, Albert Einstein College of Medicine

"This is an excellent book that covers sleep and the consequences of not receiving good restorative

sleep in an inviting, conversational style. Once you read this book, you'll know more about sleep-breathing problems than most doctors. It's a must read for anyone with chronic sleep or fatigue issues, and especially for all healthcare practitioners."

• **Brian Palmer, D.D.S.**, Sleep apnea researcher and breastfeeding advocate

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