# Sleep is a huge part of our overall health

The following brief quiz from the American Academy of Sleep Medicine may provide a clue as to how healthy your sleep is.

Questions	DUE/EALCE
<b>'</b>	RUE/FALSE
1.I feel sleepy during the day, even	
when I get a good night's sleep	
2.I get very irritable when I can't sleep	
3.I often wake up at night and have	
trouble falling back to sleep	
4. It usually takes me a long time to	
fall asleep	
5.I often wake up very early and can't	
fall back to sleep	
6.I usually feel achy and stiff when I	
wake up in the morning	
7.I often seem to wake up because of	
dreams	
8.I sometimes wake up gasping for	
breath	
9. My bed partner says my snoring	
keeps him/her from sleeping	
10. I've fallen asleep while driving	

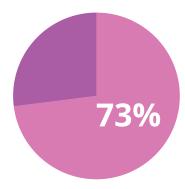
Those who suffer from sleep disordered breathing (SDB) experience breathing difficulty ranging from mild to acute snoring, upper airway resistance syndrome (UARS) and obstructive sleep apnea (OSA).

# **Snoring**

*Is always indicative of the development or existence of a sleep breathing disorder.* 

# **Upper Airway Resistance Syndrome**

Involves labored breathing and a semi-obstructed upper airway It is common in young women and is often accompanied by headaches, gastroesophageal reflux (GERO) and asthma.



Prevalence of GERD in patients with a sleep-disordered breathing problem is estimated at 73%

Vallpour, Arschang MD et al. Symptomatic Gastroesophageal Reflus in subjects with a breathing sleep disorder. Chest. 2022; 121: 1748-1753

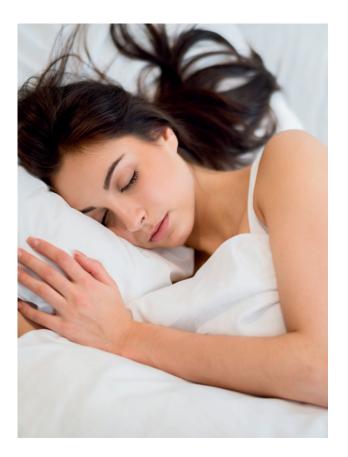




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# Sleep Disordered Breathing and WOMEN



Women at all stages of life can be affected

**OSA in Women** 

# If you answer "YES" to any of these questions, you could be one of the millions of women suffering from

# Sleep Disorder Breathing (SDB)

Do you shore?

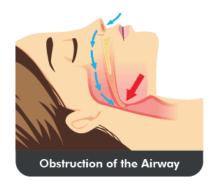
$\Box$	bo you shore.
	Are you overweight?
	Pregnant?
	Have you been diagnosed with PCOS?
	Gastroesophageal refulx?
	Do you have hormone imbalance?

Are you pre- or post- menopausal?

# What exactly is sleep disorder breathing? (SDB)

Labored respiration during sleep caused by nasal or oral airway obstruction. Even simple snoring is considered an indication of an existing problem.

Women who suffer from SDB experience a loss of muscle tone called airway patency upon falling asleep. Just like the rest of the body, the airway should relax during sleep. However. SDB causes the airway to relax too much and soft tissues in the throat to fall back against the tongue, partially or completely cutting off air flow to the lungs, depending on the severity of the SDB problem.



# Women at all stages of life can be affected

Your respiratory distress at night, no matter the category of severity into which it falls, inflicts a great deal of damage on your cardiovascular, gastrointestinal, and metabolic systems as well as your emotional well-being.

# Obesity

Excess fat around the neck and on the abdomen restrict respiration and leads to SDB. Women who are obese run the risk of developing Diabetes, Cardiovascular Disease, and a host of other conditions. SDB only exacerbates the risk.



### **Pregnancy**

All pregnant women are at risk to develop nasal swelling that can cause SDB. Even the slightest airway resistance results in the mother's lack of oxygen at night and adversely affects the fetus' growth. Sadly, in some cases, the mother's airway becomes completely obstructed many times through! the night.

- 30% of all women snore
- Women who snore habitually deliver developmentally-retarded babies 7% of the time
- Women who snore occassionally deliver developmentally-retarded babies 2.3% of the time.

Franklin, Karl A., MD, PhD, FCCP, Snoring, Pregnancy-induced Hypertension and Growth Reterdation of the Fetus. Chest. 2000; 17:137-141.

# **Polycystic Ovarian Syndrome (PCOS):**

PCOS causes a woman's body to produce too much testosterone, a hormone that dictates the way the body deposits and stores fat. If a woman produces too much testosterone, any weight she gains will be distributed in places specific to males - usually around the neck and on the abdomen. Women are unequipped to handle fat in these areas. This fat weighs down the airway and hinders abdominal raise and fall, causing SOB.

PCOS patients are 30x more likely to suffer from sleep related breathing disorders

Polycystic Ovary Syndrome is associated with Obstructive Sleep Apnea and daytime sleepiness: Role of Insulin Resistance\* Alexandros, N.V. et al. The Journal of Clinical Endocrinology & Metabolism. \*\* (2).

# Estrogen/progesterone imbalance or deficiency due to hormone imbalance or menopause:

Menopause causes extreme hormonal changes in a woman's body. The production of estrogen, progesterone, and pituitary hormones decreases drastically. Many peri- and post-menopausal women are overweight and unable to lose the weight they gained. Their bodies are no longer producing hormones that dictate the storage of fat and regulate breathing. SDB is very common in peri and post-menopausal women .

Post-menopausal women with an AHI\* of 5 are 2.6 times more likely to have SDB;
Post-menopausal women with an AHI of 15 are 3.5 times more likely to have SBD.

Young, Terri et al. Menopausal Status and Sleep Disordered Breathing (SDB) in the Wisconsin Sleep Cohort Study. AJRCCM. 2003; 167: 1181-1185 \*AHi: Apnea-Hypopnea Index