

- e. Loss of \$22 B/hr has been found to be directly associated with hypertension patients.
- f. Hypertension is the main cause of stroke.
- g. CPAP treatment of OSA results in an approximate 10mm Hg drop in blood pressure, a 37% reduction in risk of CHF, and 45% reduction in risk for stroke.

Diabetes and Sleep Apnea (OSA)

- a. More than 8 million people in North America are diabetics.
- b. Approximately 18 million North American suffer from OSA, 90% of whom are undiagnosed.
- c. Sleep deprivation and / or disturbance impacts on glucose tolerance, insulin resistance, levels of leptin and ghrelin (hormones that suppress and increase appetite).
- d. Sleep apnea patients are 9 times more likely to have diabetes than those without the sleep apnea.
- e. Patients with diabetes who show symptoms such as excessive daytime sleepiness and loud, persistent snoring should be screened for OSA and seek treatment upon diagnosis.

Organic Psychiatric Symptoms/Fibromyalgia and OSA

- a. Sleep apnea (OSA) very frequently presents with classical symptoms of fibromyalgia and organic psychiatric disorders (i.e.: depression, mood swings, anxiety, fatigue).
- b. Women are at a much higher risk of developing fibromyalgia and OSA, especially around menopause.
- c. Depression weakens the immune system, and is a leading cause of disability.
- d. Biological depression and fibromyalgia can be identified in a sleep study.



Malvern Sleep Clinic
1371 Neilson Road, Suite 306, Scarborough, ON

Driving directions from 401 Eastbound (Ajax / Pickering / Whitby / Oshawa):

Exit 401 at Neilson Road and proceed Northbound on Neilson Road to McLevin Avenue. The sleep clinic is on the Southeast corner of Neilson Road and McLevin Avenue.

Driving directions from 401 Eastbound (Toronto / Mississauga):

Exit 401 at Neilson Road and proceed Northbound on Neilson Road to McLevin Avenue. The sleep clinic is on the Southeast corner of Neilson Road and McLevin Avenue.

Driving directions from 404 Southbound (New Market / Richmond Hill):

Take 404 southbound and proceed towards 401 east. Exit 401 at Neilson Road and proceed Northbound on Neilson Road to McLevin Avenue. The sleep clinic is on the Southeast corner of Neilson Road and McLevin Avenue.

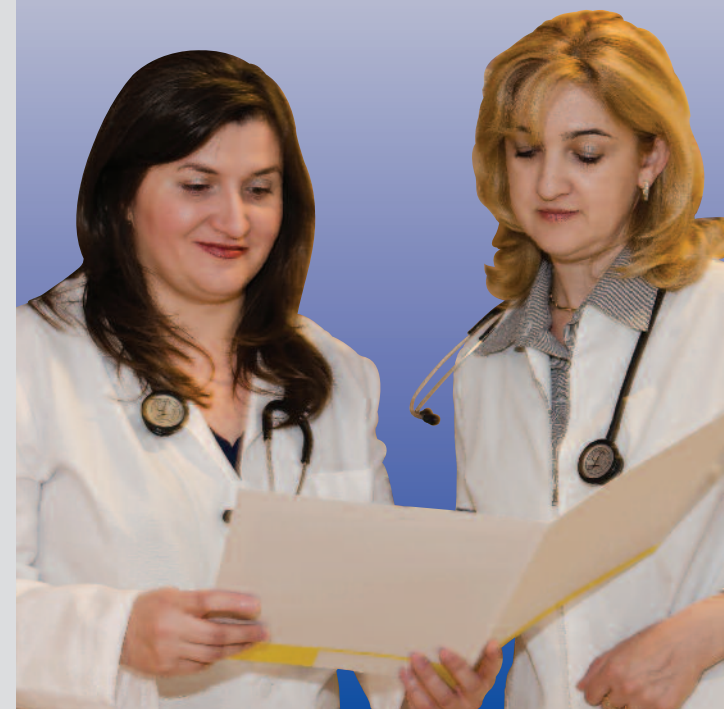
Driving directions from Markham / Unionville:

Take Markham Road southbound and proceed to Finch Avenue. Turn east (Left) on Finch Avenue and proceed to Neilson Road. Turn south (Right) on Neilson Road and proceed to McLevin Avenue. The sleep clinic is on the Southeast corner of Neilson Road and McLevin Avenue.



Malvern Sleep Clinic

Obstructive Sleep Apnea



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What is obstructive sleep apnea?

Obstructive sleep apnea (OSA) consists of periodic cessation of breathing (apnea) during sleep. This disrupts sleep quality, and can result in daytime sleepiness and fatigue. In severe cases, obstructive sleep apnea can result in an increased risk of heart diseases and stroke.

Briefly, sleep induces muscle relaxation, which in turn allows pharyngeal (throat) structures to vibrate (snoring). If taken to an extreme, the airway gets sucked shut, similar to what occurs when sucking hard on a paper straw. Breathing stops (apnea), however, the brain detects a problem, and triggers an arousal from sleep. These arousals disrupt sleep quality, but restore normal muscle tone, thus opening the airway, and breathing resumes. Although a person may be unaware that they are experiencing frequent apneas, and they may wake up feeling unrefreshed.

How common is obstructive sleep apnea?

Obstructive sleep apnea is extremely common. It has been estimated that 24% of middle-aged men and 9% of middle-aged women have obstructive sleep apnea. However, just like snoring, not everyone with OSA requires treatment. Symptomatic OSA occurs in about 4% of men and 2% of women, and is usually characterized by sleep disruption and/or daytime sleepiness.

Do I need to be treated for sleep apnea?

As mentioned previously, sleep apnea is extremely common. Treatment is considered if there is: (a) impaired quality of life or (b) health risk. In general, health risk from sleep apnea is only present in patients with severe sleep apnea. Most people seeking treatment for OSA do so for quality of life reasons. Impaired quality of life usually consists of poor sleep quality, daytime fatigue or sleepiness. Another concern for those people with OSA and excessive daytime sleepiness is the risk of falling asleep while driving.

Many medical and psychiatric conditions and other sleep disorders can result in daytime fatigue, so it is important to make sure these have been ruled out. Also, an insufficient sleep time or insomnia (the inability to fall asleep or stay asleep) can cause daytime sleepiness as well.

How do I know if I have sleep apnea?

The most common symptoms are snoring, witnessed apneas (people observing you stopping breathing during sleep), choking/gasping episodes during sleep, and daytime

sleepiness (despite a seemingly adequate sleep time). Obesity and high blood pressure are frequently seen in patients with sleep apnea, but not necessarily all the time. If you have symptoms suggestive of sleep apnea, then it is worthwhile having a sleep study. Depending on where you live in Canada, this may take the form of a portable monitor (home testing), or a visit to the sleep centre for an overnight sleep study or polysomnogram (PSG). Both of these tests measure your breathing and oxygen level in the blood. The PSG is a more sophisticated test which monitors brain wave (EEG) activity, eye movements (EOG), muscle activity (EMG), and breathing effort. It can also be used to diagnose sleep disorders other than sleep apnea and can be used to guide therapy. Patients suspected of having severe sleep apnea, or an underlying heart or lung condition, are best evaluated with a PSG in a sleep centre setting.

How is sleep apnea treated?

Sleep apnea can be treated in a number of different ways. The type of treatment is usually decided upon based on balancing the severity of symptoms against desirability of therapy. Clearly, a less symptomatic person will wish a less aggressive form of therapy.

(1) *Behaviour and lifestyle modification*: Weight loss is the most important factor, and patients have been cured of sleep apnea after losing weight. Other considerations are: regular exercise, smoking cessation, avoidance of alcohol or sedatives before sleeping, and training oneself to sleep more on the side.

(2) *Surgery*: This 'opens' up the back of the throat. Surgery is an excellent way of treating snoring, however, the success rate for treating symptomatic sleep apnea is low. As such, surgery is not considered at first line treatment for sleep apnea. There are two types of procedures: Uvulopalatopharyngoplasty (UPPP) (UP3) or laser-assisted uvulopalatopharyngoplasty (LAUP). UP3 is a conventional surgical procedure which requires a hospital visit. LAUP can be performed in a specialist's office, but frequently requires repeated treatments to be effective.

(3) *Continuous Positive Airway Pressure (CPAP)*: CPAP consists of a portable machine that blows pressurized air thru a mask that is worn over the nose. The pressurized air holds the airway open, and thus prevents apneas. CPAP is extremely effective, but since it can be a bit cumbersome, a decision to use CPAP is dependent on balancing the severity

of symptoms against the hassles of therapy. However, because of its effectiveness, CPAP is the most common type of treatment for symptomatic sleep apnea.

(4) *Oral appliance*: This is a mouthguard which advances the lower jaw, thus opening up the space at the back of the throat. It is worn while sleeping, and removed after waking. The oral appliance is less effective than CPAP but some patients find it easier to tolerate than CPAP therapy.

This brochure has been prepared for
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Menopause and Sleep Apnea (OSA)

- Several recent studies reveal that OSA occurs more frequently in women after menopause as compared to the women of younger age.
- Hormonal changes in the menopause women (abnormal levels of estrogen and progesterone) can affect the function of the upper airway and predispose to sleep-disordered breathing.
- Menopausal women report most sleeping disorders like OSA, DIMS (Difficulty Initiating and Maintaining Sleep) RLS, PLMO.

Hypertension and Obstructive Sleep Apnea (OSA)

- Approximately 30% of patients with severe heart failure suffer from daytime pathological sleepiness.
- Sleep related breathing disorders have been reported in 50% to 60% of patients with hypertension and/or impaired cardiac function.
- CPAP therapy helps to control obstructive sleep apnea along with improvements of cardiac function and daytime sleepiness.
- Approximately 30% of hypertension patients suffering from sleep apnea are undiagnosed.