

Obstructive Sleep Apnea (OSA)



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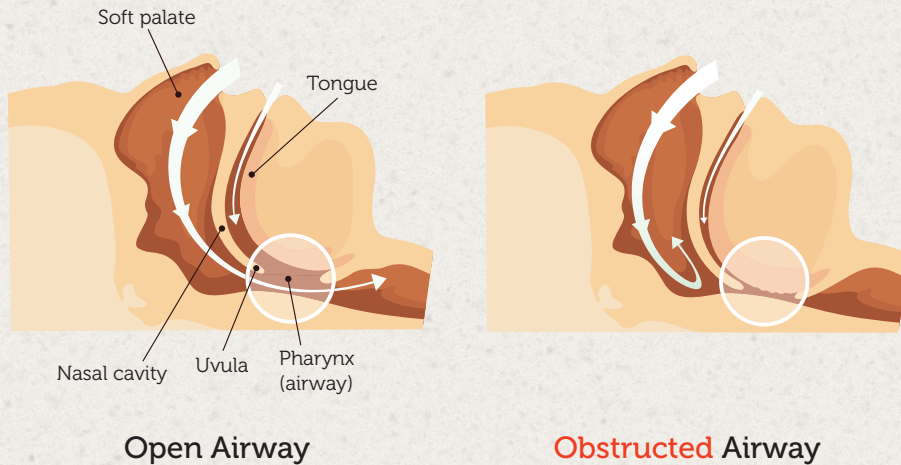
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Obstructive Sleep Apnea (OSA)

OSA is a condition when the upper airway is repeatedly obstructed partially or completely during sleep. This leads to snoring and recurrent pauses or reduction in breathing. This disruption in breathing causes a drop in blood oxygen levels, which can result in disruption to sleep.

Upper Airway Anatomy



Who are at risk?

Sleep apnea affects more men than women. It is common in people who are overweight and of the older age group. Certain physical traits also contribute to OSA: large neck, low-hanging soft palate, enlarged tonsils and small jaw with receding chin.



Do I have OSA?

Symptoms of OSA include loud snoring, nighttime breathing pauses and excessive daytime sleepiness despite adequate sleep.

Disrupted sleep can cause morning headache, frequent nighttime urination, decreased libido, sexual dysfunction, irritability, difficulty with concentration, poor memory and changes in personality. Risk assessment and evaluation with sleep study is required for diagnosis.

Consequences of untreated OSA

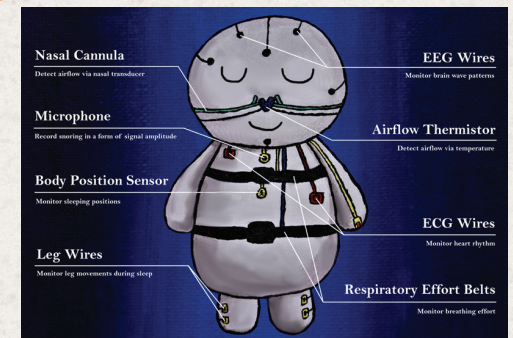
Untreated OSA is associated with a number of health problems, including but not limited to hypertension, the risk of heart diseases, strokes, diabetes and depression. It is also linked to work and road accidents and poor job and academic performances.

Sleep Study

Sleep studies are necessary for the diagnosis of OSA and other sleep disorders. They are generally divided into in-laboratory sleep study and ambulatory sleep studies. Your doctor will advise which sleep study is suitable for you.

In-Laboratory Sleep Study

The overnight sleep study is a comprehensive recording of your brain and body activities that occur during sleep. It is performed under the supervision of a trained sleep technologist in a sleep laboratory, usually in a hospital.



Ambulatory Sleep Study

This is a portable sleep test which can be done overnight at the comfort of your own bedroom. You will collect the recording device from Sleep Diagnostics clinic and will be taught on the proper placement of the sensors.



Treatment for OSA

There are various treatment options for OSA ranging from lifestyle changes to mechanical therapy. Your doctor will advise which treatment option(s) is/are suitable for you.

Lifestyle changes and conservative treatment

- Weight Loss
- Positional therapy
- Sleep hygiene
- Treatment of nasal allergies
- Myofunctional therapy

Mechanical therapy

- CPAP therapy
- Surgery
- Oral appliance therapy

Weight loss

Weight loss is beneficial if you are overweight. A 5 - 10% weight loss can improve sleep apnea and reduce breathing pauses. Calories are fuel (or energy) for the body. We get calories from what we eat and drink. Reducing dietary calorie intake and increasing calorie output via exercise will help with weight loss. A negative energy balance of 500 - 1000kcal per day will help to achieve a healthy weight loss of 0.5 - 1.0kg per week.

Healthy weight management includes:

- Take meals at regular times and do not skip meals.
- Control food portions by using My Healthy Plate as advocated by Health Promotion Board (HPB) - $\frac{1}{4}$ of the plate should be filled with carbohydrates, another $\frac{1}{4}$ plate with protein dishes and the remaining $\frac{1}{2}$ of the plate with vegetables and a serving of fruit.
- Cook or choose food with healthier cooking methods such as steaming, boiling, stir-frying or stewing instead of deep-frying.
- Increase fibre intake by including whole grains and 2 servings of fruits and vegetables a day.
- Limit alcohol intake as it contributes to caloric intake without providing any other nutrients.



Source: Health Promotion Board

Exercise tips

- Regular exercise is important because it not only helps maintain weight, but it will keep you fit, help you sleep better and feel more energetic in your daily activities.

- Aim to achieve regular moderate intensity exercise at least 5 days a week or vigorous exercise at least 3 days a week.
- For moderate intensity exercise, spend at least 30 mins each time and for vigorous exercise at least 20 mins each time.
- Gauge the intensity by judging if you have enough breathe to hold a conversation.
- Do a mixture of aerobic (jogging, cycling, dancing) and muscle building exercises (push-ups, sit-ups, squats).
- Weave physical activities into your daily life. For example, choose stairs over escalator and lifts. But any physical activity for a start is better than none at all, so start moving!

Positional therapy

Some patients can benefit from sleeping sideways to reduce snoring and apnea episodes.

Sleep hygiene

- Ensure adequate sleep of at least 7 – 8 hours per night.
- Avoid alcohol and sleeping pills. These relax the muscles at the back of your throat and depress breathing.
- Avoid use of electronics, mobile phones, or playing computer games in the bedroom.
- Ensure your bedroom has a comfortable temperature for you to fall asleep and that it is dark and quiet.

Treatment of nasal allergies and nasal blockage

Unblocking your nose can improve your upper airway breathing during sleep. If necessary, your doctor can prescribe some nasal spray and tablets for treatment. Some patients may need surgery to treat nasal blockage.

Nasal Breathing and Myofunctional Therapy

Nasal breathing complements the use of CPAP by reducing mouth breathing. This improves your compliance to CPAP and results in better overall outcomes.

Myofunctional Therapy includes exercises that improve upper airway muscles to reduce instability during breathing.

CPAP therapy

Continuous Positive Airway Pressure (CPAP) therapy is the gold standard effective treatment for OSA.

It delivers gentle air pressure to keep your airway continuously open, allowing you to breathe easily during sleep.



Surgical management

Surgery is an effective way to treat OSA, especially if you are unable to tolerate the use of CPAP. Surgery can also be done to help you ease into your CPAP usage. There is a range of surgical procedures designed to widen and/or stiffen the upper airway to prevent airway closure during sleep and improve airflow. Your doctor will discuss with you which surgery is suitable for you.

Oral appliance therapy

Oral dental appliances help reposition your lower jaw and tongue to enlarge the upper airway and improve airflow during sleep.

