

## How are Snoring and OSA treated?

### 3. Oral Appliance

You are required to wear a mouthpiece during sleep to keep your airway open. The mouthpiece helps to change the position of your tongue or move your jaw forward.

### 4. Positional Therapy

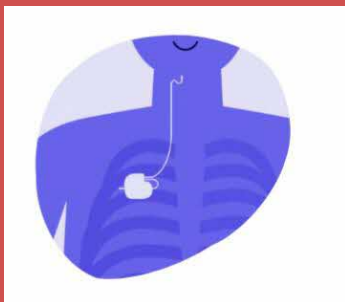
This helps you to avoid sleeping on your back and may be effective for some OSA patients.

### 5. Upper Airway Surgery

You could also consider upper airway widening surgery if you are unable to tolerate PAP therapy and if surgery is recommended by your doctor.

### 6. Upper Airway Stimulation Therapy

If you are assessed by your doctor to be suitable, a surgical implant can help stimulate and keep the upper airway open during sleep.



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Department of  
**Otorhinolaryngology (Ear, Nose & Throat)**  
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## SNORING AND OBSTRUCTIVE SLEEP APNEA (OSA)





# What is Snoring and Obstructive Sleep Apnea (OSA)?

## Snoring

Snoring refers to noisy breathing during sleep. This happens because when you breathe:

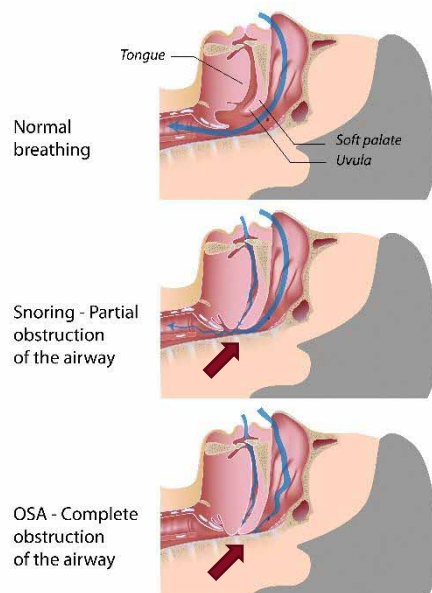
- Your upper airway becomes narrower, which slows down air flow
- Different soft tissues in your throat, like soft palate, uvula and base of tongue, vibrate

Snoring may be a warning sign of another medical problem if you also have other symptoms (shown on next page). This condition is known as **Obstructive Sleep Apnea**.

## Obstructive Sleep Apnea (OSA)

OSA is a sleep disorder, where the upper airway is repeatedly blocked (obstruction). This causes:

- Pauses in breathing (apneas)
- Drop in blood oxygen level



## Complications

If OSA is left untreated, it could contribute to medical problems such as:

- High blood pressure
- Irregular heart beat
- Heart attack
- Stroke
- Diabetes mellitus

## Symptoms



### Daytime

- Excessive sleepiness
- Poor concentration
- Dry mouth and throat when waking up



### Night-time

- Excessive snoring
- Choking episodes
- Waking up many times throughout the night
- Observed by bed partner to 'stop breathing'

## Diagnosis

To know if you have OSA, you need to go for:

- Detailed clinical assessment
- Flexible nasoendoscopy – this is a procedure where a thin flexible camera is passed through your nose and throat for examination
- Overnight sleep study
- Home sleep study

## Is OSA Common?

Based on a local study, almost one in three Singaporean adults (31%) have OSA. However, majority were previously undiagnosed.

## Measuring the Severity of OSA

The Apnea Hypopnoea Index (AHI) is used to measure the severity of OSA. Based on every hour that you sleep at night, the AHI can measure:

- Number of times your airflow is **reduced** (hypopnoeas)
- Number of times your airflow is **blocked** (apneas)

There are four categories under the AHI:

- Normal: Less than 5 times
- Mild OSA: 5 to 15 times
- Moderate OSA: 15 to 30 times
- Severe OSA: 30 or more times

## How are Snoring and OSA treated?

### 1. Lifestyle Modifications and Weight Management

Adopting a healthy lifestyle and good sleep habits are recommended. Those who are overweight should also keep their weight in check.

### 2. Positive Airway Pressure (PAP) Therapy

By using a face mask throughout the night, this method eases the pressure in your airways. It is the most effective therapy for OSA, but discuss with your doctor first to see if this is suitable for you.