



# life line

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## Behind All That Snoring

“Are you a loud habitual snorer?”

“Do you sometimes wake up during the night with the sensation of choking?”

“Do you experience fatigue and sleepiness during waking hours?”

**i** **f your** answer is yes to any of the above, you may be suffering from obstructive sleep apnea (OSA), a common sleep disorder. In a study performed by the National University of Singapore, the prevalence of OSA in Singapore was estimated to be 4.3% among females and 13.6% among males. It is more common among men, obese individuals as well as those with habitual snoring, daytime sleepiness and hypertension.

### **About Obstructive Sleep Apnea (OSA)**

In OSA, the upper airway (throat) closes repeatedly during sleep. Each time, breathing stops for 10 to 30 seconds or longer, usually until a brief arousal occurs. The throat then opens, breathing

resumes and the patient falls back asleep, only to repeat the same cycle. Some patients stop breathing hundreds of times each night without remembering any of these episodes because arousals from sleep are so brief.

One of the most common effects of OSA is excessive daytime sleepiness. Thinking ability, including concentration and decision-making ability, can also be affected. Left untreated, obstructive sleep apnea may lead to high blood pressure, stroke, heart attack, heart failure or shorter lifespan. In children, obstructive sleep apnea often occurs in association with large tonsils. Children with this condition may show inattention, hyperactivity, sleepiness or other behavioral problems.

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# Behind All That Snoring

## Diagnosing Obstructive Sleep Apnea (OSA)

Make a trip to the doctor if you suspect that you are suffering from a sleep disorder. The doctor will spend much of the first visit asking you about your medical and sleep history, and perform a physical examination. Often, but not always, an overnight sleep study (polysomnogram) in a sleep laboratory will be recommended. The purpose is usually to confirm the presence of a sleep disorder or to help assess how severe it is.

If OSA is suspected, the doctor will order a sleep study to confirm the diagnosis. It requires an overnight stay in a private room or in a sleep laboratory. On the day of the study, the patient can continue his usual daily activities but is encouraged to avoid naps, caffeine and alcohol. The patient is usually requested to arrive at the laboratory around 8 or 9pm, bringing along sleepwear, toiletries and any medications - similar to what one would do on a trip away from home.



In the room or lab, monitoring devices will be used to collect the information requested by the doctor. Sensors used will monitor the patient's brain waves (EEG activity), heart rate (EKG), eye movements, leg muscle activity as well as chest and stomach movements. Air flow from the nose and mouth, and oxygen level will be recorded. The amount of oxygen in the blood is monitored by a sensor that is clipped onto a finger. Other monitors may be required to collect other specific information requested by the doctor. Usually, a polysomnogram ends around 6am the next day and the patient can return to his usual daytime routine.

## Treatment Options

Once identified, OSA can be successfully treated in most instances. The most common form of treatment is continuous positive airway pressure (CPAP), where the patient sleeps with a mask over the nose.

The mask is connected by a long flexible tubing to a machine about the size of a large shoebox. The CPAP unit transmits pressurised air through the nose and into the throat, where the walls of the airway are splinted open. The patient can then breathe normally, without apneic pauses. Patients will be reviewed a few weeks after commencement of CPAP to assess their response to the treatment. The CPAP therapy is usually highly effective if used properly every night.

Alternative forms of treatment include surgery and use of oral devices. Children are often treated by removal of the tonsils and adenoids.

**If you suspect that you are suffering from a sleep disorder, you can contact our Sleep Clinic (at our Specialist Outpatient Clinic D) at 6772 5733 for an appointment.** A two-bed, modern sleep laboratory with equipment for digital polysomnography, specialised studies of breathing and abnormal behaviors during sleep, and CPAP titration (overnight study for treatment) is available at NUH.

## Other Types of Sleep Disorder

### Circadian Rhythm Disorders

Persistent or recurrent patterns of sleep disruption leading to excessive sleepiness or insomnia, for example, due to jet lag, shift work, etc.

### Parasomnias

Disorders that interrupt sleep, causing either a partial or complete awakening or arousal, for example, teeth grinding, sleep talking and bedwetting.

### Restless Legs Syndrome

A neurological disorder characterised by unpleasant sensations in the legs and an uncontrollable urge to move when at rest in an effort to relieve these feelings, causing sufferers to have difficulties falling and staying asleep.

### Narcolepsy

A chronic disorder affecting the brain where regulation of sleep and wakefulness takes place, resulting in an irresistible need to sleep (even in unlikely circumstances such as in the middle of a conversation or at a meal) no matter how much they have slept.

**More information on sleep disorders is available at the National Heart, Lung and Blood Institute and American Sleep Apnea Association websites at [www.nhlbi.nih.gov/health/public/sleep](http://www.nhlbi.nih.gov/health/public/sleep) and [www.sleepapnea.org](http://www.sleepapnea.org) respectively.**

## TO STAFF OF NUH

“This is to express our heartfelt gratitude to the relevant staff of NUH who had attended to us during our recent consultation.

On 21 Jan 2005, we arranged for the admission of our daughter for the MRI on the following day. When we arrived at Ward 47, Staff Nurse Huang Hai Xia sincerely extended her prompt assistance to arrange for the documentation/bed and call for Dr David Ng Wei Liang, House Officer, Orthopaedic Surgery for the necessary follow-up.

On 22 Jan 2005, before the MRI, Dr Hee Hwan Tak, Consultant, Orthopaedic Surgery and Dr Yu Zhirong, Medical Officer, Orthopaedic Surgery even came personally to see our daughter. We felt very touched by their concern. Both Dr David Ng (despite his long duty hours) and Dr Andrea Yeo, Medical Officer, Paediatrics, further rendered their care during the MRI process.

Last but not least, Assistant Nurse Haslina Omar from Clinic B has also given great assistance and patiently attended to our enquiries, apart from providing useful advice. She had gone the extra mile of returning my call after her tight working hours.”

- Mr and Mrs Tan

“... I was duly impressed by the speed at which I was diagnosed and at which treatment started. I was kept informed at all times and I was surprised by the politeness of everyone involved. This, I believe, is NUH's advantage over similar set-ups elsewhere - the human edge...”

- Dr Chih K. C. (Extracted from The Straits Times, Forum, 10 Jan 2005)

## postcards from our patients



### TO TOH PECK HUA, NURSE MANAGER, WARD 64

“...I have seen during my visits how the staff of Ward 64 perform and must inform you of a Ms Toh Peck Hua who not only succeeded in calming my dad down, clearing up the mess of urine he had on the floor, bed and clothes, and the fast reaction she possessed in carrying out her duties. Many people will not be able to carry out the work in an environment so demanding and challenging. I truly appreciate this person and her attitude and capabilities... Excellent person!”

- Ong T. H.

### TO ALICE LAM, PHYSIOTHERAPIST, REHABILITATION MEDICINE

“I would like to commend her for her friendly and cheerful service. She displays professionalism with personal care and interest for her patients.”

- Mdm Wong M.Y.